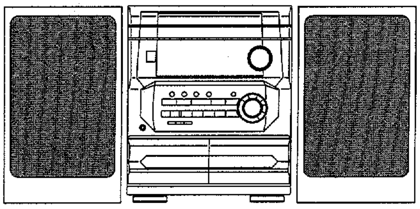
aiwa

aiwa
SERVICE

# NSX-S222
# NSX-S223
# NSX-S226
# NSX-S229
# NSX-S333
# NSX-S336



COMPACT DISC /
STEREO CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 6ZM-3
- BASIC CD MECHANISM : 4ZG-1

- TYPE : LH,HA,HR,V,K,EZ

SERVICE MANUAL

S/M Code No. 09-994-404-4R2

# TABLE OF SYSTEM STRUCTURE

| SYSTEM | SPEAKER | CD – CASSEIVER | REMOTE CONTROLLER | TAPE MECHANISM (6ZM-3) | CD MECHANISM (4ZG-1) |
|---|---|---|---|---|---|
| NSX–S222 (TYPE : HA) | SX–NS222 | CX – NS222 | RC -ZAS02 | YPR1NM | Z3RDLSHCM |
| NSX–S229 (TYPE : LH) | SX–SNS332 | | | | Z3RDLSHM |
| NSX–S222 (TYPE : HR) | SX– NS222 | | | PR1NM | Z3RDLSHM |
| NSX–S333 (TYPE : HR) | SX–NS332 | CX – NS333 | | YPR2NF | KZ3RDLSHF |
| NSX–S336 (TYPE : HR) | SX–NS552 | CX – NS336 | | PR2NM | Z3RDLSHM |
| NSX–S222 (TYPE : V) | SX–NS222 | CX – NS222 | | PR1NM | |
| NSX–S222 (TYPE : K) | | | | YPR1N | Z4RDLSHM |
| NSX–S222 (TYPE : EZ) | | | | | |
| NSX–S223 (TYPE : EZ) | SX–NS223 | CX – NS223 | | | |
| NSX–S333 (TYPE : EZ) | SX–NAV224 | CX – NS333 | | | |
| NSX–S226 (TYPE : EZ) | SX–NS226 | CX – NS226 | RC -ZAS02 | PR1NM | Z3RDLSHM |

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# SPECIFICATIONS

**<FM Tuner section>**

| | |
|---|---|
| **Tuning range** | HA,LH,HR,K,EZ :<br>87.5 MHz to 108 MHz<br>V:<br>FM1 (OIRT)<br>65 MHz to 74 MHz(10 kHz step)<br>FM2 (CCIR)<br>87.5 MHz to 108 MHz(50 kHzstep) |
| **Usable sensitivity (IHF)** | HA,LH,HR : 13.2 dBf<br>EZ,K : 16.8 dBf<br>V: FM1 : 15.3 dBf<br>FM2 : 12.8 dBf |
| **Antenna terminals** | 75 ohms (unbalanced) |

**<AM/MW Tuner section>**

| | |
|---|---|
| **Tuning range** | 530 kHz to 1710 kHz (10 kHz step)<br>531 kHz to 1602 kHz (9 kHz step) |
| **Usable sensitivity** | 350 µV/m |
| **Antenna** | Loop antenna |

**<SW Tuner section> ( HR)**

| | |
|---|---|
| **Tuning range** | 5.900 MHz to 17.900 MHz |
| **Usable sensitivity** | 40 µV(IEC) |
| **Antenna** | Wire antenna |

**<LW Tuner section> (EZ,K)**

| | |
|---|---|
| **Tuning range** | 144 kHz to 290 kHz |
| **Usable sensitivity** | 1400 uV/m |
| **Antenna** | Loop antenna |

**<Amplifier section>**

| | |
|---|---|
| **Power output** | 222HA,222LH,333/336HR:<br>Rated : 24 W + 24 W (6 ohms, T.H.D. 1 %, 1 kHz)<br>Reference: 30W + 30W (6 ohms, T.H.D. 10 %, 1 kHz)<br><br>222HR:<br>Rated : 12 W + 12 W (6 ohms, T.H.D. 1 %, 1 kHz)<br>Reference: 15W + 15W (6 ohms, T.H.D. 10 %, 1 kHz)<br><br>K,V,222/223/226EZ:<br>Rated : 12 W + 12 W (6 ohms, T.H.D. 1 %, 1 kHz/DIN 45500)<br>Reference: 15W + 15W (6 ohms, T.H.D. 10 %, 1 kHz/DIN 45324)<br>DIN MUSIC POWER: 35 W + 35 W<br><br>333EZ :<br>Rated : 30 W +340 W (6 ohms, T.H.D. 1 %, 1 kHz/DIN 45500)<br>Reference: 37W + 37W (6 ohms, T.H.D. 10 %, 1 kHz/DIN 45324)<br>DIN MUSIC POWER: 75 W + 75 W |
| **Total harmonic distortion** | 222HA,229LH,333/336HR:<br>0.05 % (15 W, 1 kHz, 6 ohms, DIN AUDIO)<br><br>222HR,K,V,222/223/226EZ:<br>0.05 % (6 W, 1 kHz, 6 ohms, DIN AUDIO)<br><br>333EZ:<br>0.05 % (15W, 1 kHz, 6 ohms, DIN AUDIO) |
| **Inputs** | VIDEO/AUX : 500 mV<br>MIC: 1.0 mV (10 kohms)<HR only> |

| | |
|---|---|
| **Outputs** | SPEAKERS:<br>accept speakers of 6 ohms or more<br>PHONES (stereo jack) :<br>accepts headphones of 32 ohms or more |

**<Cassette deck section>**

| | |
|---|---|
| **Track format** | 4 tracks, 2 channels stereo |
| **Frequency response** | 50 Hz - 10000 Hz |
| **Recording system** | AC bias |
| **Heads** | Deck 1 : Playback head x 1<br>Deck 2 : Recording/playback/erase head x 1 |

**<Compact disc player section>**

| | |
|---|---|
| **Laser** | Semiconductor laser ($\lambda$ =780 nm) |
| **D-A converter** | 1 bit dual |
| **Signal-to-noise ratio** | 85 dB (1 kHz, 0 dB) |
| **Harmonic distortion** | 0.05% (1 kHz, 0 dB) |
| **Wow and flutter** | Unmeasurable |

**<Speaker system SX-NS222,SX-NS223,SX-NS226,SX-NS332>**

| | |
|---|---|
| **Cabinet type** | 2 way, bass reflex (magnetic shielded type) |
| **Speakers** | Woofer : 120 mm cone type<br>Tweeter : 20 mm ceramic type |
| **Impedance** | 6 ohms |
| **Output sound pressure level** | 87 dB/W/m |
| **Dimensions (W x H x D)** | 234 x 324 x 270 mm |
| **Weight** | 2.8 kg |

**<Speaker system SX–NS552>**

| | |
|---|---|
| **Cabinet type** | 3 way, bass reflex (magnetic shielded type) |
| **Speakers** | Woofer : 160 mm cone type<br>Tweeter : 50 mm ceramic type<br>Super tweeter : 20 mm ceramic type |
| **Impedance** | 6 ohms |
| **Output sound pressure level** | 87 dB/W/m |
| **Dimensions (W x H x D)** | 234 x 324 x 270 mm |
| **Weight** | 3.8 kg |

**<Speaker system SX-NAV224>**

| | |
|---|---|
| **Cabinet type** | 2 way, bass reflex (magnetic shielded type) |
| **Speakers** | Woofer : 140 mm cone type<br>Tweeter : 60 mm cone type |
| **Impedance** | 6 ohms |
| **Output sound pressure level** | 87 dB/W/m |
| **Dimensions (W x H x D)** | 240 x 324 x 253 mm |
| **Weight** | 3.8 kg |

**<General>**

| | |
|---|---|
| **Power requirements** | HA,LH,HR:<br>120V / 220–230V / 240V AC, switchable, 50/60 Hz<br>K,V,EZ : 230V AC, 50Hz |
| **Power consumption** | 222HA,229LH,333/336HR: 80W<br>222HR,K,V,222/223/226EZ: 50 W<br>333EZ : 85 W |
| **Dimensions of main unit (W x H x D)** | 260 x 330 x 350 mm<br>($10^{1}/_{4}$ x 13 x $13^{7}/_{8}$ in.) |
| **Weight of main unit** | 222HA,229LH,333/336HR : 5.9 kg<br>222HR,K,V,222/223/226EZ : 5.0 kg<br>333EZ : 5.9 kg |

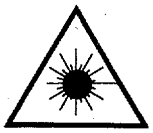
- Design and specifications are subject to change without notice.

# PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

**WARNING!!**

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

**VAROITUS!**

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

**VARNING!**

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

**CAUTION**

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**ATTENTION**

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

**ADVARSEL!**

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

The CLASS 1 LASER PRODUCT label is located on the rear exterior.

| | |
|---|---|
| CLASS 1 | LASER PRODUCT |
| KLASSE 1 | LASER PRODUKT |
| LUOKAN 1 | LASER LAITE |
| KLASS 1 | LASER APPARAT |

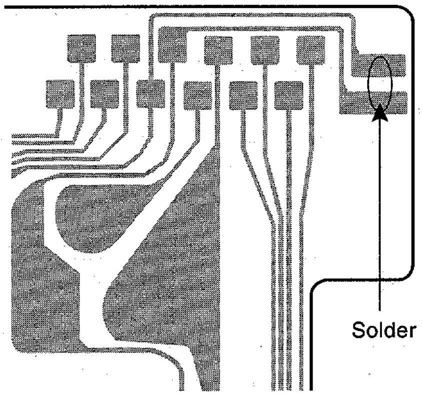
## Precaution to replace Optical block

## (KSS – 213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in right figure.

PICK-UP Assy P.C.B



# NOTE ON BEFORE STARTING REPAIR

## 1. Forced discharge of electrolytic capacitor of power supply block

When repair is going to be attempted in the set that uses relay circuit in the power supply block, electric potential is kept charged across the electrolytic capacitors (C101, 102) even though AC power cord is removed. If repair is attempted in this condition, secondary defect can occur.

In order to prevent the secondary trouble, perform the following measures before starting repair work.

### Discharge procedure

① Remove the AC power cord.

② Connect a discharging resistor at an end of lead wire that has clips at both ends. Connect the other end of the lead wire to metal chassis.

③ Contact the other end of the discharging resistor to the positive (+) side (+VH) of C101. (For two seconds)

④ Contact the same end of the discharging resistor as step ③ to the negative (-) side (-VH) of C102 in the same way. (For two seconds)

⑤ Check that voltage across C101 and C102 has decreased to 1 V or less using a multimeter or an oscilloscope.

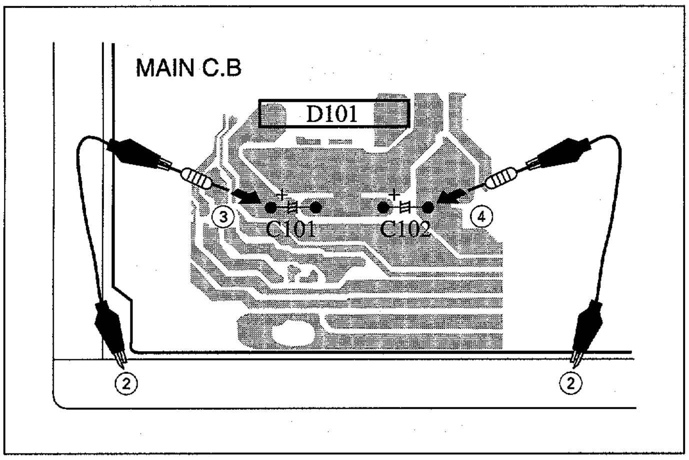


Fig-1

Select a discharging resistor referring to the following table.

| Charging voltage (V) (C101, 102) | Discharging resistor (Ω) | Rated power (W) | Parts number |
|---|---|---|---|
| 25-48 | 100 | 3 | 87-A00-247-090 |
| 49-140 | 220 | 5 | 87-A00-232-090 |

Note: The reference numbers (C101, C102) of the electrolytic capacitors can change depending on the models. Be sure to check the reference numbers of the charging capacitors on schematic diagram before starting the discharging work.

## 2. Check items before exchanging the MICROCOMPUTER

Be sure to check the following items before exchanging the MICROCOMPUTER. Exchange the MICROCOMPUTER after confirming that the MICROCOMPUTER is surely defective.

### 2-1. Regarding the HOLD terminal of the MICROCOMPUTER

When the HOLD terminal (INPUT) of the MICROCOMPUTER is “H”, the MICROCOMPUTER is judged to be operating correctly. When this terminal is “L”, the main power cannot be turned on. Therefore, be sure to check the terminal voltage of the HOLD terminal before exchange.

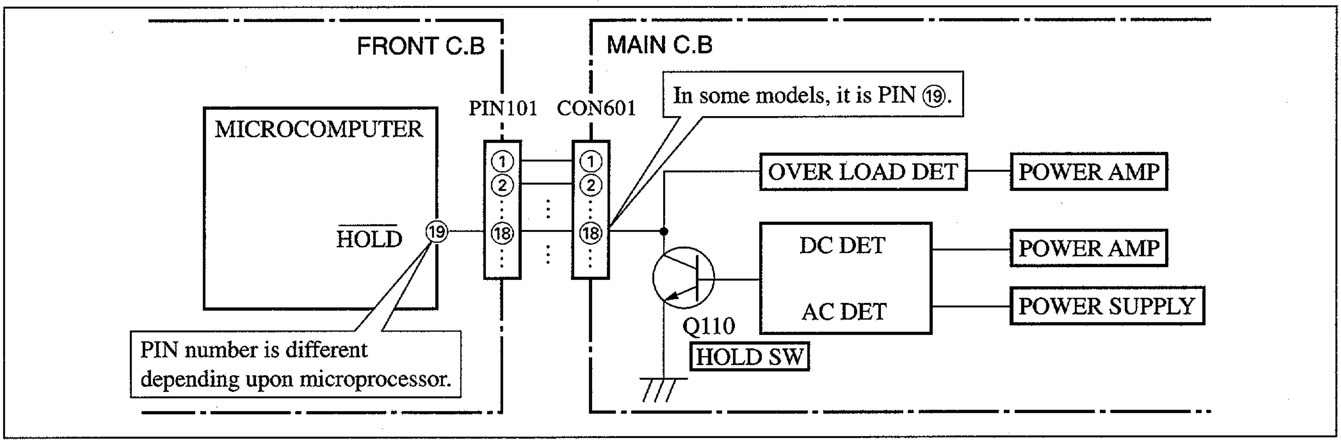
When the MICROCOMPUTER is not defective, the HOLD terminal can also go “L” when the POWER AMPLIFIER has any abnormalities that triggers the abnormality detection circuit on the MAIN C. B. that sets the HOLD terminal to “L”.

- Good or no good judgement of the MICROCOMPUTER

① Turn on the AC main power.

② Confirm that the main power is turned on and the HOLD terminal of the MICROCOMPUTER keeps the “H” level or not.

③ When the HOLD terminal is “L” level, the abnormality detection circuit is judged to be working correctly and the MICROCOMPUTER is judged to be good.



In some models, it is PIN ⑲.

PIN number is different depending upon microprocessor.

Fig-2-1

In such a case, check also if the POWER AMPLIFIER circuit or power supply circuit has any abnormalities or not.

## 2-2. Regarding reset

There are cases that the machine does not work correctly because the MICROCOMPUTER is not reset even though the AC power cord is re-inserted, or the software reset (pressing the STOP key + POWER key) is performed.
When the above described phenomenon occurs, it can lead to wrong judgement as if the MICROCOMPUTER is defective and to exchange the MICROCOMPUTER. In such a case, perform the forced-reset by the following procedure and check good or no good of the MICROCOMPUTER.

① Remove the AC power cord.

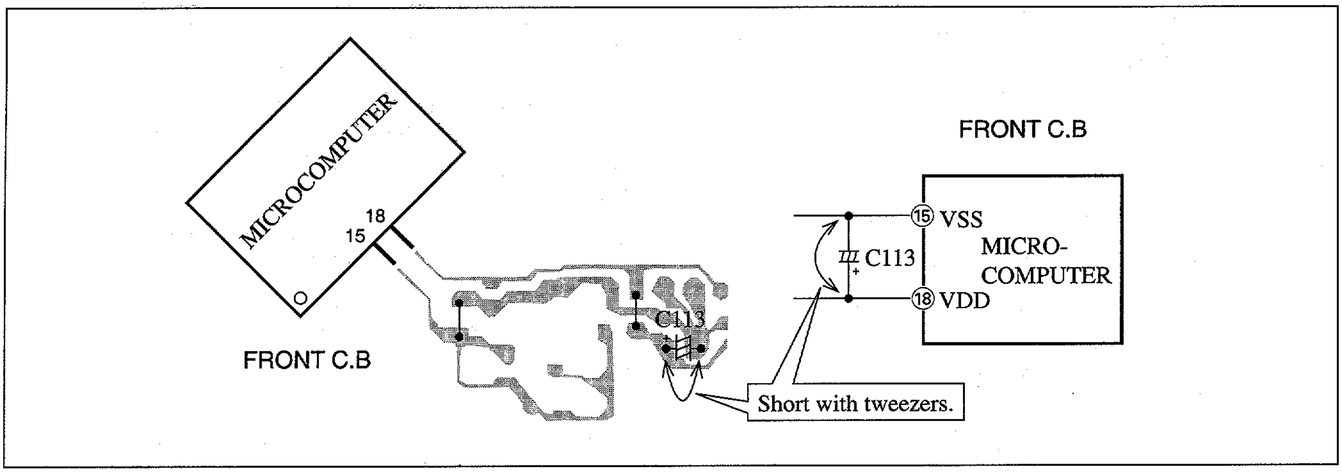


Fig-2-2

② Short both ends of the electrolytic capacitor C113 that is connected to VDD of the MICROCOMPUTER with tweezers.

③ Connect the AC power cord again. If the MICROCOMPUTER returns to the normal operation, the MICROCOMPUTER is good.

Note: The reference number or MICROCOMPUTER pin number of transistor (Q110) and electrolytic capacitor (C113) can change depending on the models. Be sure to check the reference numbers on schematic diagram before starting the discharging work.

## 2-3. Confirmation of soldering state of MICROCOMPUTER

Check the soldering state of the MICROCOMPUTER in addition to the above described procedures. Be sure to exchange the MICROCOMPUTER after surely confirming that the trouble is not caused by poor soldering but the MICROCOMPUTER itself.

# ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| IC | | | |
| | 8Z-NF9-637-010 | | C-IC,M38B59MFH-E107FP<23EZ> |
| | 8Z-NF9-631-010 | | C-IC,M38B59MFH-E110F<336HR> |
| | 8Z-NF9-630-010 | | C-IC,M38B59MFH-P101FP<exp 23EZ,36HR> |
| | 87-A20-715-010 | | IC,M62439SP |
| | 87-017-889-010 | | IC,NJM4558LD |
| | 87-A21-218-010 | | IC,NJL64H380A |
| | 87-070-127-110 | | IC,LC72131 D |
| | 87-A21-218-010 | | IC,NJL64H380A |
| | 87-A20-913-010 | | IC,LA1837NL |
| | 87-A20-502-010 | | IC,BU1920<23EZ> |
| | 87-A20-454-010 | | IC,DN6851 |
| TRANSISTOR | | | |
| | 87-026-218-080 | | TR,DTC144ES (0.2W) |
| | 87-026-610-080 | | TR,KTC3198GR |
| | 87-A30-196-080 | | TR,2SC4115SRS |
| | 87-026-609-080 | | TR,KTA1266GR |
| | 89-213-702-010 | | TR,2SB1370 (1.8W) |
| | 87-026-269-080 | | TR,DTA114ES |
| | 87-026-219-080 | | TR,DTA144ES (0.3W) |
| | 87-A30-090-080 | | FET,2SK2541 |
| | 87-026-215-080 | | TR,DTC114YS |
| | 87-A30-190-080 | | TR,CC5551<3HR,3EZ,HA,LH> |
| | 87-A30-109-010 | | TR,2SD 2495<3EZ> |
| | 87-A30-256-010 | | TR,2SD1933<exp 3EZ> |
| | 87-A30-255-010 | | TR,2SB1342<exp 3EZ> |
| | 87-A30-108-010 | | TR,2SB1626<3EZ> |
| | 87-A30-091-080 | | FET,2SJ460 |
| | 87-026-287-080 | | TR,DTC143ES |
| | 87-026-245-080 | | TR,DTC114ES |
| | 87-A30-240-080 | | TR,CSA1585BC |
| | 87-A30-318-080 | | TR,CSA952K |
| | 87-026-214-080 | | TR,DTA114YS (0.3W) |
| | 87-A30-164-080 | | TR,CSC2001K<exp HA,LH> |
| | 87-A30-092-080 | | FET,2SK439E/F<exp HA,LH> |
| | 89-305-352-380 | | TR,2SC535<K,V,EZ> |
| DIODE | | | |
| | 87-070-274-080 | | DIODE,1N4003 SEM |
| | 87-A40-336-080 | | ZENER,MTZJ27D T-72 |
| | 87-020-465-080 | | DIODE,1SS133 (110MA) |
| | 87-A40-345-080 | | ZENER,MTZJ10C |
| | 87-A40-535-080 | | DIODE,1N5393<exp 3EZ,HA,LH> |
| | 87-A40-455-080 | | DIODE,RL203 GW<3EZ,HA,LH> |
| | 87-A40-509-080 | | ZENER,MTZJ6.8C<exp K,2EZ,3EZ> |
| | 87-A40-466-080 | | ZENER,MTZJ2.7A |
| | 87-017-931-080 | | ZENER,MTZJ5.6B |
| MAIN C.B | | | |
| C101 | 87-016-495-090 | | CAP,E 3300-25 SMG<V> |
| C101 | 87-010-917-090 | | CAP,E 3300-50 M SMG<3EZ> |
| C101 | 87-A10-520-090 | | CAP,E 3300-35 M SMG<exp V,3EZ> |
| C103 | 87-A10-627-090 | | CAP,E 2200-50 M SMG<3EZ> |
| C103 | 87-A10-011-090 | | CAP,E 2200-25 SMG<V> |
| C103 | 87-016-051-090 | | CAP,E 2200-35 SMG<exp V,3EZ> |
| C105 | 87-018-127-080 | | CAP, CER 470P-50V |
| C107 | 87-010-384-080 | | CAP, ELECT 100-25V |
| C108 | 87-010-381-080 | | CAP, ELECT 330-16V |
| C111 | 87-010-247-080 | | CAP,E 100-50V<2HR,K,V,2EZ,23EZ> |
| C111 | 87-010-430-080 | | CAP,E 100-63<3HR,3EZ,HA,LH> |
| C112 | 87-010-263-080 | | CAP, ELECT 100-10V |
| C113 | 87-010-403-080 | | CAP, ELECT 3.3-50V |
| C114 | 87-010-374-080 | | CAP, ELECT 47-10V |
| C115 | 87-A10-303-080 | | CAP,M 0.047-50 J |
| C116 | 87-A10-303-080 | | CAP,M 0.047-50 J |
| C122 | 87-010-384-080 | | CAP,E 100-25V<2HR,K,V,2EZ,23EZ> |
| C122 | 87-010-408-080 | | CAP,E 47-50V<3HR,3EZ,HA,LH> |
| C123 | 87-010-384-080 | | CAP,E 100-25V<2HR,K,V,2EZ,23EZ> |
| C123 | 87-010-408-080 | | CAP,E 47-50V<3HR,3EZ,HA,LH> |
| C130 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F<3EZ> |
| C130 | 87-018-131-080 | | CAP,TC U 1000P-50 K B<V> |
| C152 | 87-010-394-080 | | CAP,E 220-35V<HR,HA,LH> |
| C152 | 87-010-385-080 | | CAP,E 220-25V<K,V,2EZ,23EZ> |
| C152 | 87-010-409-080 | | CAP,E 220-50 SME<3EZ> |
| C207 | 87-010-546-080 | | CAP, ELECT 0.33-50V |
| C208 | 87-010-546-080 | | CAP, ELECT 0.33-50V |
| C209 | 87-A11-154-080 | | CAP,TC U 4700P-16 Z F |
| C210 | 87-A11-154-080 | | CAP,TC U 4700P-16 Z F |
| C211 | 87-010-403-080 | | CAP, ELECT 3.3-50V |
| C212 | 87-010-403-080 | | CAP, ELECT 3.3-50V |
| C213 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C214 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C217 | 87-A10-304-080 | | CAP,M 0.056-50 J |
| C218 | 87-A10-304-080 | | CAP,M 0.056-50 J |
| C219 | 87-010-544-080 | | CAP, ELECT 0.1-50V |
| C220 | 87-010-544-080 | | CAP, ELECT 0.1-50V |
| C221 | 87-018-211-080 | | CAP,CER 0.01-50<K,V,EZ> |
| C222 | 87-018-211-080 | | CAP,CER 0.01-50<K,V,EZ> |
| C223 | 87-A11-155-080 | | CAP,TC 0.01-16<K,V,EZ> |
| C224 | 87-A11-155-080 | | CAP,TC 0.01-16<K,V,EZ> |
| C229 | 87-018-123-080 | | CAP, CER 220P-50V<exp 3EZ> |
| C229 | 87-018-124-080 | | CAP, CER 270P-50V<3EZ> |
| C230 | 87-018-123-080 | | CAP, CER 220P-50V<exp 3EZ> |
| C230 | 87-018-124-080 | | CAP, CER 270P-50V<3EZ> |
| C235 | 87-A11-148-080 | | CAP,TC 0.1-50 ZF<V,3HR,3EZ,HA,LH> |
| C236 | 87-A11-148-080 | | CAP,TC 0.1-50 ZF<V,3HR,3EZ,HA,LH> |
| C237 | 87-A11-155-080 | | CAP,TC 0.01-16 Z F |
| C253 | 87-018-131-080 | | CAP,CER 1000P<K,V,EZ> |
| C254 | 87-018-131-080 | | CAP,CER 1000P<K,V,EZ> |
| C255 | 87-018-115-080 | | CAP,CER 47P<K,V,EZ> |
| C256 | 87-018-115-080 | | CAP,CER 47P<K,V,EZ> |
| C257 | 87-018-119-080 | | CAP,CER 100P<K,V,EZ> |
| C258 | 87-018-119-080 | | CAP,CER 100P<K,V,EZ> |
| C301 | 87-018-131-080 | | CAP, CER 1000P-50V |
| C302 | 87-018-131-080 | | CAP, CER 1000P-50V |
| C303 | 87-018-131-080 | | CAP, CER 1000P-50V |
| C304 | 87-018-131-080 | | CAP, CER 1000P-50V |
| C307 | 87-010-263-080 | | CAP, ELECT 100-10V |
| C308 | 87-010-263-080 | | CAP, ELECT 100-10V |
| C309 | 87-018-115-080 | | CAP,CER 47P-50V<K,V,EZ> |
| C310 | 87-018-115-080 | | CAP,CER 47P-50V<K,V,EZ> |
| C311 | 87-A10-305-080 | | CAP,M 0.068-50 J |
| C312 | 87-A10-305-080 | | CAP,M 0.068-50 J |
| C315 | 87-010-374-080 | | CAP, ELECT 47-10V |
| C317 | 87-010-546-080 | | CAP, ELECT 0.33-50V |
| C318 | 87-010-546-080 | | CAP, ELECT 0.33-50V |
| C322 | 87-A11-148-080 | | CAP,TC U 0.1-50<K,V,EZ> |
| C326 | 87-018-205-080 | | CAP, CERA-SOL 0.022 |
| C360 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C361 | 87-010-374-080 | | CAP, ELECT 47-10V |
| C399 | 87-018-127-080 | | CAP, CER 470P-50V |
| C401 | 87-010-544-080 | | CAP, ELECT 0.1-50V |
| C402 | 87-010-544-080 | | CAP, ELECT 0.1-50V |
| C403 | 87-018-118-080 | | CAP,TC-U 82P-50 B |
| C404 | 87-018-118-080 | | CAP,TC-U 82P-50 B |
| C411 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C412 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C452 | 87-010-382-080 | | CAP,E 22-25V<HR,HA,LH,V> |
| C452 | 87-010-260-080 | | CAP,E 47-25V<K,EZ> |
| C458 | 87-018-131-080 | | CAP, CER 1000P-50V |
| C459 | 87-018-128-080 | | CAP,TC U 560P-50 K B |
| C461 | 87-018-126-080 | | CAP,TC-U 390P-50 B |
| C462 | 87-018-126-080 | | CAP,TC-U 390P-50 B |
| C601 | 87-018-195-080 | | CAP, CER 1200P-16V |
| C602 | 87-018-195-080 | | CAP, CER 1200P-16V |
| C611 | 87-010-545-080 | | CAP, ELECT 0.22-50V |
| C612 | 87-010-545-080 | | CAP, ELECT 0.22-50V |

***NOTE: 2EZ=222EZ,226EZ 2HR=222HR**
**3EZ=333EZ 3HR=333HR,336HR**
**23EZ=223EZ exp=EXCEPT**

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C613 | 87-010-545-080 | | CAP, ELECT 0.22-50V |
| C614 | 87-010-545-080 | | CAP, ELECT 0.22-50V |
| C615 | 87-018-104-080 | | CAP,TC-U 10P-50 SL |
| C616 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C617 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C701 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C702 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F |
| C703 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F |
| C704 | 87-018-131-080 | | CAP, CER 1000P-50V |
| C705 | 87-018-131-080 | | CAP, CER 1000P-50V |
| C706 | 87-018-131-080 | | CAP, CER 1000P-50V |
| C707 | 87-010-112-080 | | CAP, ELECT 100-16V |
| C708 | 87-A11-144-080 | | CAP,TC U 0.1-50 K B |
| C709 | 87-010-248-080 | | CAP, ELECT 220-10V |
| C710 | 87-010-112-080 | | CAP, ELECT 100-16V |
| C712 | 87-018-149-080 | | CAP,TC-U 15P-50 CH |
| C713 | 87-018-149-080 | | CAP,TC-U 15P-50 CH |
| C714 | 87-010-112-080 | | CAP, ELECT 100-16V |
| C715 | 87-018-119-080 | | CAP, CER 100P-50V |
| C746 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F |
| C751 | 87-018-131-080 | | CAP, CER 1000P-50V |
| C752 | 87-018-143-080 | | CAP,TC 4.7P-50CH<K,V,EZ> |
| C753 | 87-010-408-080 | | CAP, ELECT 47-50V |
| C755 | 87-A11-144-080 | | CAP,TC U 0.1-50 K B |
| C756 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F |
| C757 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F |
| C758 | 87-010-112-080 | | CAP, ELECT 100-16V |
| C759 | 87-A11-155-080 | | CAP,TC U 0.01-16 ZF<exp HR> |
| C761 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C762 | 87-010-400-080 | | CAP, ELECT 0.47-50V |
| C763 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C764 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C765 | 87-018-115-080 | | CAP, CER 47P-50V |
| C766 | 87-010-407-080 | | CAP, ELECT 33-50V |
| C768 | 87-A11-147-080 | | CAP,TC U 0.047-50 Z F |
| C769 | 87-010-403-080 | | CAP, ELECT 3.3-50V |
| C770 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F |
| C771 | 87-010-406-080 | | CAP, ELECT 22-50 |
| C773 | 87-018-131-080 | | CAP, TC 1000P-50<HR,HA,LH,V> |
| C773 | 87-018-195-080 | | CAP, TC 1200P-16<23EZ> |
| C773 | 87-018-196-080 | | CAP, TC 1500P-16<K,2EZ,3EZ> |
| C774 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C776 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F |
| C783 | 87-018-199-080 | | CAP, CER 3300P<HR,HA,LH,V> |
| C783 | 87-018-202-080 | | CAP.CERAM.6800PF<K,EZ> |
| C784 | 87-018-199-080 | | CAP, CER 3300P<HR,HA,LH,V> |
| C784 | 87-018-202-080 | | CAP.CERAM.6800PF<K,EZ> |
| C785 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C786 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C787 | 87-A11-153-080 | | CAP,TC U 2200P-16 Z F<HA,LH> |
| C787 | 87-018-196-080 | | CAP, TC 1500P-16<exp HA,LH> |
| C788 | 87-A11-153-080 | | CAP,TC U 2200P-16 Z F<HA,LH> |
| C788 | 87-018-196-080 | | CAP, TC 1500P-16<exp HA,LH> |
| C789 | 87-010-403-080 | | CAP, ELECT 3.3-50V |
| C790 | 87-010-403-080 | | CAP, ELECT 3.3-50V |
| C801 | 87-A11-155-080 | | CAP,TC 0.01-16ZF<K,EZ> |
| C802 | 87-A11-155-080 | | CAP,TC 0.01-16ZF<K,EZ> |
| C803 | 87-A11-155-080 | | CAP,TC 0.01-16ZF<K,EZ> |
| C804 | 87-A11-155-080 | | CAP,TC 0.01-16ZF<K,EZ> |
| C805 | 87-A11-144-080 | | CAP,TC 0.1-50KB |
| C807 | 87-A11-144-080 | | CAP,TC U 0.1-50KB |
| C808 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F |
| C809 | 87-A11-155-080 | | CAP,TC 0.01-16ZF<K,V,EZ> |
| C810 | 87-A11-155-080 | | CAP,TC 0.01-16ZF<K,V,EZ> |
| C811 | 87-A11-155-080 | | CAP,TC 0.01-16ZF<K,V,EZ> |
| C812 | 87-010-408-080 | | CAP,E 47-50V<K,V,EZ> |
| C813 | 87-018-131-080 | | CAP, CER 1000P-50V |
| C851 | 87-018-123-080 | | CAP, CER 220P-50V<23EZ> |
| C852 | 87-018-123-080 | | CAP, CER 220P-50V<23EZ> |
| C853 | 87-018-127-080 | | CAP, CER 470P-50V<23EZ> |

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C854 | 87-A11-144-080 | | CAP,TC U 0.1-50 K B<23EZ> |
| C855 | 87-010-405-080 | | CAP, ELECT 10-50V<23EZ> |
| C856 | 87-010-405-080 | | CAP, ELECT 10-50V<23EZ> |
| C857 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F<23EZ> |
| C858 | 87-018-109-080 | | CAP, CER 22P-50V<23EZ> |
| C859 | 87-018-109-080 | | CAP, CER 22P-50V<23EZ> |
| C860 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F<23EZ> |
| C901 | 87-A11-148-080 | | CAP,TC U 0.1-50 Z F |
| C902 | 87-A11-144-080 | | CAP,TC U 0.1-50 K B<HR> |
| C921 | 87-A11-155-080 | | CAP,TC 0.01-16ZF<K,EZ> |
| C922 | 87-018-099-080 | | CAP CERA 3.9P-50<K,EZ> |
| C923 | 87-018-102-080 | | CAP,TC-U 6.8P-50<K,EZ> |
| C924 | 87-014-049-080 | | CAP,PP 470P-100 J<K,EZ> |
| C931 | 87-010-263-080 | | CAP, ELECT 100-10V<HR> |
| C932 | 87-010-400-080 | | CAP, ELECT 0.47-50V<HR> |
| C934 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F<HR> |
| C935 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F<HR> |
| C936 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F<HR> |
| C937 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F<exp HA,LH,V> |
| C938 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F<exp HA,LH,V> |
| C939 | 87-014-073-080 | | CAP,PP 4700P-100 J<HR> |
| C940 | 87-014-051-080 | | CAPACITOR (PP), 560P<HR> |
| C941 | 87-018-109-080 | | CAP, CER 22P-50V<HR> |
| C943 | 87-A11-144-080 | | CAP,TC U 0.1-50 K B |
| C944 | 87-018-104-080 | | CAP,TC-U 10P-50 SL<HA,LH,V> |
| CF801 | 87-008-261-010 | | FLTR,SFE10.7MA5<HR,HA,LH,V> |
| CF801 | 87-008-423-010 | | FLTR,SFE10.7MS3G-A<K,EZ> |
| CF802 | 82-785-747-010 | | CF MS2 GHY R<K,EZ> |
| CF802 | 87-008-261-010 | | FLTR,SFE10.7MA5-A<V> |
| CN301 | 87-A60-620-010 | | CONN,3P V 2MM JMT |
| CN351 | 87-A60-625-010 | | CONN,8P V 2MM JMT |
| CN601 | 88-NF9-657-010 | | CONN,30P H BLK TYK-B(X) |
| CN602 | 87-099-194-010 | | CONN,6P 6216V |
| D981 | 87-A40-618-080 | | VARI-CAP,SVC 348(S/T)<HR> |
| FB601 | 87-008-372-080 | | FLTR,EMI BLOIRNI<K,V,EZ> |
| FB603 | 87-008-474-080 | | F-BEAD,EMI BL02RN1<exp HA,LH> |
| FB813 | 87-008-372-080 | | FLTR,EMI BLOIRNI<HR,HA,LH> |
| FCC3 | 88-906-251-110 | | FF-CABLE,6P 1.25 |
| FFE801 | A8-8ZA-190-030 | | 8ZA-1 FEUNM<2HR> |
| FFE801 | A8-8ZA-191-030 | | 8ZA-1 YFEUNM<3HR,HA,LH> |
| FFE801 | A8-6ZA-193-130 | | 6ZA-1 FEVNM<V> |
| FFE801 | A8-6ZA-19C-170 | | 6ZA-1 YFEENC<K,EZ> |
| J201 | 87-A60-602-010 | | JACK,DIA6.3 BLK ST W/SW TC |
| J202 | 87-A60-238-010 | | TERMINAL,SP 4P (MSC) |
| J601 | 87-A60-881-010 | | JACK,PIN 2P MSP 242V05 PBSN |
| J801 | 87-A60-202-010 | | TML,ANT4P MSP<HR,HA,LH,V> |
| J802 | 87-A60-403-010 | | TML,ANTPAL 2P<K,EZ> |
| J931 | 81-754-629-010 | | CONNECTOR, 2P<HR> |
| L201 | 87-003-383-010 | | COIL,1UH-S |
| L202 | 87-003-383-010 | | COIL,1UH-S |
| L451 | 87-007-342-010 | | COIL,OSC 85K BIAS |
| L701 | 87-005-847-080 | | COIL,2.2UH(CECS) |
| L771 | 87-A50-266-010 | | COIL,FM DET-2N(TOK) |
| L772 | 87-A90-052-010 | | FLTR,CFMT-450A(TOK)<HR> |
| L772 | 87-A91-110-010 | | FLTR,PCFJZH-450(TOK)<HA,LH,V> |
| L772 | 87-A90-733-010 | | FLTR,PCFAZH-450<K,EZ> |
| L801 | 87-005-847-080 | | COIL,2.2UH(CECS) |
| L802 | 87-005-849-080 | | COIL,10UH K CECS <V> |
| L851 | 87-005-847-080 | | COIL,2.2UH(CECS)<23EZ> |
| L855 | 87-005-849-080 | | COIL,10UH K CECS <V> |
| L933 | 87-A50-159-010 | | COIL,10MH K C2B<HR> |
| L934 | 87-005-372-080 | | COIL S 1MHM<HR> |
| L941 | 87-A50-020-010 | | COIL,ANT LW(COI)<K,EZ> |
| L941 | 87-A50-022-010 | | COIL,ANT SW(COI)<HR> |
| L942 | 87-A50-019-010 | | COIL,OSC LW(COI)<K,EZ> |
| L942 | 87-A50-173-010 | | COIL,OSC SW-N(COI)<HR> |
| L981 | 8Z-NFA-665-010 | | COIL,AMPACK 2L<K,EZ> |
| L981 | 8Z-NFA-664-010 | | COIL,AMPACK 4L<HA,LH,V> |
| L982 | 87-A50-431-010 | | COIL,OSC MW(3BSW)<HR> |
| L983 | 87-A50-430-010 | | COIL,ANT MW(3BSW)<HR> |

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| R223 | 87-A00-258-080 | | RES,M/F 0.22-1WJ<3HR,3EZ,HA,LH> |
| R224 | 87-A00-258-080 | | RES,M/F 0.22-JWJ<3HR,3EZ,HA,LH> |
| R249 | 87-A00-258-080 | | RES,M/F 0.22-1WJ |
| R250 | 87-A00-258-080 | | RES,M/F 0.22-1WJ |
| R253 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F<3EZ> |
| R254 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F<3EZ> |
| RY101 | 87-A90-464-010 | | RELAY, DG12D2-O(M) |
| SFR451 | 87-024-355-080 | | SFR,33K DIA6 H |
| SFR452 | 87-024-355-080 | | SFR,33K DIA6 H |
| TC941 | 87-011-220-080 | | TRIMMER CAP 20P VTC<HR> |
| TC942 | 87-011-221-080 | | CAP,TRMR 30P<K,EZ> |
| TC943 | 87-011-221-080 | | CAP,TRIMMER 30P<HR> |
| W101 | 83-NE2-618-110 | | F-CABEL,5P-2.5 |
| WH102 | 87-A90-459-010 | | HLDR,WIRE 2.5-5P |
| X701 | 87-A70-061-010 | | VIB,XTAL 4.500MHZ CSA-309 |
| X751 | 87-030-354-010 | | VIB,CF BFU 450C<HR> |
| X851 | 87-A70-091-010 | | VIB,XTAL 4.332MHZ CSA-309<23EZ> |

FRONT C.B

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C101 | 87-A11-140-080 | | CAP,TC U 0.047-50 K B |
| C151 | 87-A11-142-080 | | CAP,TC U 0.068-50 K B |
| C153 | 87-010-221-080 | | CAP, ELECT 470-10V |
| C201 | 87-010-421-040 | | CAP,E 4.7-50 5L |
| C202 | 87-010-421-040 | | CAP,E 4.7-50 5L |
| C203 | 87-010-560-040 | | CAP,E 10-50 GAS |
| C204 | 87-010-246-040 | | CAP,E 47-35 SME |
| C205 | 87-018-205-080 | | CAP, CERA-SOL 0.022 |
| C210 | 87-010-060-040 | | CAP,E 100-16<exp 3HR> |
| C210 | 87-A10-818-040 | | CAP,E 100-16 7L SRA<3HR> |
| C211 | 87-A11-242-040 | | CAP,E 220-10 M 5L SRM |
| C212 | 87-018-205-080 | | CAP, CERA-SOL 0.022 |
| C213 | 87-015-695-040 | | E/CAP 1UF 50V TAPG |
| C214 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F |
| C216 | 87-018-131-080 | | CAP, CER 1000P-50V |
| C217 | 87-018-125-080 | | CAP, CER 330P-50V |
| C218 | 87-018-125-080 | | CAP, CER 330P-50V |
| C219 | 87-018-131-080 | | CAP, CER 1000P-50V |
| C220 | 87-018-205-080 | | CAP, CERA-SOL 0.022 |
| C221 | 87-018-105-080 | | CAP,TC-U 12P-50 SL |
| C222 | 87-018-128-080 | | CAP, CERA-SOL SS 560P |
| C224 | 87-018-205-080 | | CAP, CERA-SOL 0.022 |
| C230 | 87-A11-140-080 | | CAP,TC U 0.047-50 K B |
| C231 | 87-015-681-040 | | E/CAP 10-16 |
| C232 | 87-A11-140-080 | | CAP,TC U 0.047-50 K B |
| C234 | 87-A11-140-080 | | CAP,TC U 0.047-50 K B |
| C241 | 87-018-117-080 | | CAP,TC-U 68P-50 SL |
| C242 | 87-018-117-080 | | CAP,TC-U 68P-50 SL |
| C243 | 87-018-117-080 | | CAP,TC-U 68P-50 SL |
| C244 | 87-018-117-080 | | CAP,TC-U 68P-50 SL |
| C245 | 87-018-117-080 | | CAP,TC-U 68P-50 SL |
| C246 | 87-018-118-080 | | CAP,TC-U 82P-50 B |
| C251 | 87-018-117-080 | | CAP,TC-U 68P-50 SL |
| C252 | 87-018-131-080 | | CAP, CER 1000P-50V |
| C401 | 87-A11-154-080 | | CAP,TC U 4700P-16 ZF<HR> |
| C402 | 87-010-112-040 | | CAP,E 100-16<HR> |
| C403 | 87-A11-149-080 | | CAP,TC U 0.22-50 ZF<HR> |
| C404 | 87-018-117-080 | | CAP,TC-U 68P-50 SL<HR> |
| C405 | 87-010-400-040 | | CAP,E 0.47-50<HR> |
| C406 | 87-A11-144-080 | | CAP,TC U 0.1-50 KB<HR> |
| C407 | 87-015-699-040 | | CAP,E 10-50 7L<HR> |
| C408 | 87-018-118-080 | | CAP,TC-U 82P-50 B<HR> |
| C409 | 87-010-378-040 | | CAP,E 10-16 SME<HR> |
| C410 | 87-A11-140-080 | | CAP,TC U 0.047-50 K B<HR> |
| C412 | 87-018-131-080 | | CAP, CER 1000P-50V<HR> |
| C413 | 87-018-131-080 | | CAP, CER 1000P-50V<HR> |
| C701 | 87-018-115-080 | | CAP, CER 47P-50V |
| CN701 | 87-099-013-010 | | CONN,11P 6216 V |
| CON101 | 88-NF9-658-010 | | CONN,30P BLKTYK-B(P) |
| CON102 | 87-099-015-010 | | CONN,13P 6216V |
| EMI401 | 87-008-372-080 | | FILTER, EMI BL OIRNI<HR> |
| FCC1 | 88-913-221-110 | | FF-CABLE, 13P 1.25 220MM |
| FCC2 | 88-911-201-110 | | FF-CABLE,11P 1.25 |
| FL301 | 8Z-NF9-610-010 | | FL,SVA-10MS12 |
| J401 | 87-A60-651-010 | | JACK,3.5MONO<2HR,3HR> |
| L201 | 87-A50-434-010 | | COIL,CLK 4.19M(TOKO) |
| LED601 | 87-A40-619-080 | | LED,SLR-56PT-TE7-W GRN |
| LED602 | 87-A40-619-080 | | LED,SLR-56PT-TE7-W GRN |
| LED603 | 87-A40-619-080 | | LED,SLR-56PT-TE7-W GRN<exp 3HR> |
| LED604 | 87-A40-619-080 | | LED,SLR-56PT-TE7-W GRN |
| LED605 | 87-A40-619-080 | | LED,SLR-56PT-TE7-W GRN |
| LED608 | 87-A40-619-080 | | LED,SLR-56PT-TE7-W GRN<3HR> |
| LED609 | 87-A40-619-080 | | LED,SLR-56PT-TE7-W GRN<3HR> |
| S201 | 87-A90-535-010 | | SW,RTRY EC16B24304 |
| S202 | 87-A90-791-010 | | SW,RTRY EC16B12204 ENCODER |
| S301 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S302 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S303 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S304 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S305 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S306 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S307 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S308 | 87-A90-164-080 | | SW,TACT SKQAB(N)<exp 3HR> |
| S309 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S310 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S311 | 87-A90-095-080 | | SW,TACT EVQ11G04M<23EZ> |
| S312 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S313 | 87-A90-095-080 | | SW,TACT EVQ11G04M<23EZ> |
| S314 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S315 | 87-A90-095-080 | | SW,TACT EVQ11G04M<23EZ> |
| S316 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S317 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S318 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S319 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S320 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S321 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S322 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S323 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S324 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S325 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S329 | 87-A90-164-080 | | SW,TACT SKQAB(N) |
| S330 | 87-A90-164-080 | | SW,TACT SKQAB(N)<3HR> |
| VR401 | 86-NFA-607-010 | | VR,RTRY 10K15AX1<HR> |

AC1 C.B

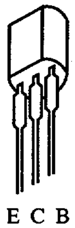
| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| ⚠ F101 | 87-035-224-010 | | FUSE, 1.6AT<HA,LH,3HR> |
| ⚠ F101 | 87-035-222-010 | | FUSE, 1AT<2HR,3EZ> |
| ⚠ F101 | 87-035-219-010 | | FUSE, 500MA'T'<K,V,22EZ,23EZ> |
| ⚠ FC1 | 87-033-213-080 | | CLAMP, FUSE<K,V,EZ> |
| ⚠ FC2 | 87-033-213-080 | | CLAMP, FUSE<K,V,EZ> |
| ⚠ FC101 | 87-033-147-010 | | FUSE CLAMP<HR,HA,LH> |
| ⚠ FC102 | 87-033-147-010 | | FUSE CLAMP<HR,HA,LH> |
| ⚠ PT101 | 88-NF9-611-010 | | PT,8NF-9 HI-LH<HA,LH> |
| ⚠ PT101 | 88-NF9-608-010 | | PT,8NF9-EKZ<K,V,2EZ,23EZ> |
| ⚠ PT101 | 8Z-NF9-622-010 | | PT,ZNF-9 EZ-HI<3EZ> |
| ⚠ PT101 | 8Z-NF9-623-010 | | PT,ZNF-9 HR<2HR> |
| ⚠ PT101 | 8Z-NF9-610-010 | | PT,8NF-9 HI-HR<3HR> |
| ⚠ SW101 | 87-A90-165-010 | | SW,SL 1-2-3<HR,HA,LH> |
| ⚠ T1 | 87-A60-317-010 | | TERMINAL,1P<K,V,EZ> |
| ⚠ T2 | 87-A60-317-010 | | TERMINAL,1P<K,V,EZ> |
| ⚠ T101 | 87-A60-317-010 | | TERMINAL,1P<HR,HA,LH> |
| ⚠ T102 | 87-A60-317-010 | | TERMINAL,1P<HR,HA,LH> |

AC2 C.B

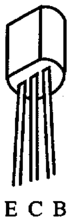
| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| PR101 | 87-026-681-080 | | PROTR,5A 60V<3HR,33EZ,HA,LH> |
| PR102 | 87-026-681-080 | | PROTR,5A 60V<3HR,33EZ,HA,LH> |
| WH101 | 87-A90-459-010 | | HLDR,WIRE 2.5-5P |

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| DECK C.B | | | |
| CN105 | 87-099-753-019 | | CONN,11P 9604 |
| CN301 | 86-ZM3-604-219 | | CON ASSY,3P-PB |
| CN351 | 86-ZM3-605-119 | | CON ASSY,8P-PB |
| SFR1 | 87-024-581-019 | | SFR,3.3K DIA 6H |
| SOL1 | 82-ZM1-618-410 | | SOL ASSY, 27 |
| SOL2 | 82-ZM1-618-410 | | SOL ASSY, 27 |
| SW1 | 87-A90-248-019 | | SW,MICRO ESE11SH2CXQ |
| SW2 | 87-A90-248-019 | | SW,MICRO ESE11SH2CXQ |
| SW3 | 87-A90-248-019 | | SW,MICRO ESE11SH2CXQ |
| SW4 | 87-A90-248-019 | | SW,MICRO ESE11SH2CXQ |
| SW5 | 87-A90-248-019 | | SW,MICRO ESE11SH2CXQ |
| W1 | 82-ZM1-632-019 | | REN-CORD,4P-120MM |

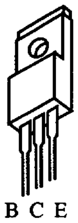
## TRANSISTOR ILLUSTRATION



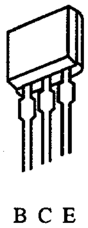
KTA1266GR
KTC3198GR
2SC352



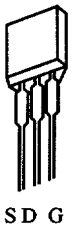
CSA1585BC
CC5551
CSA952K
CSC2001K



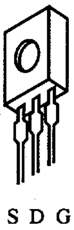
2SB1370



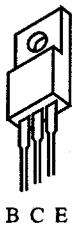
2SC4115S



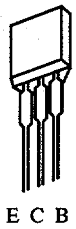
2SK2541
2SK439E/F



2SJ460

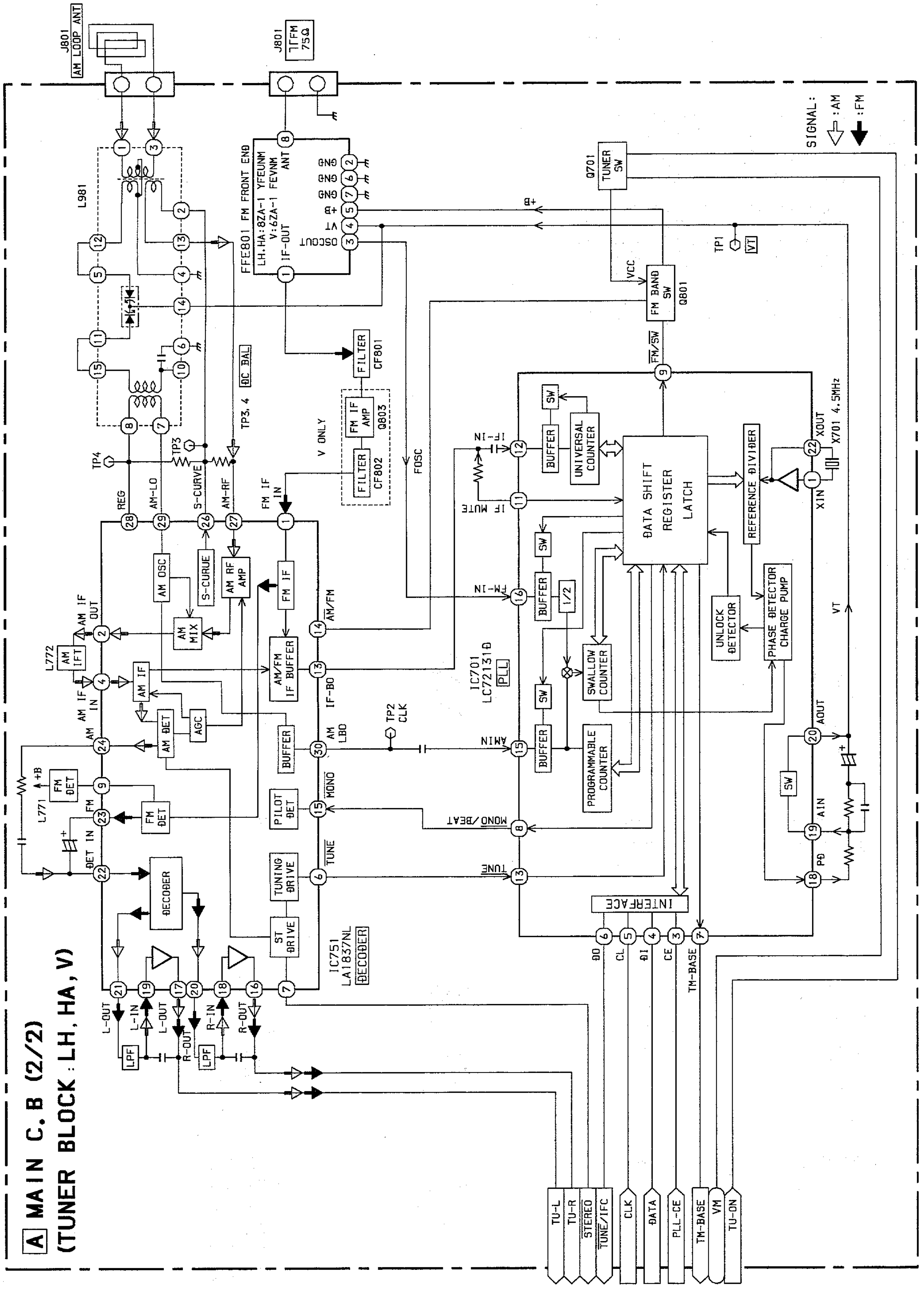


2SB1342
2SB1626
2SD1933
2SD2495

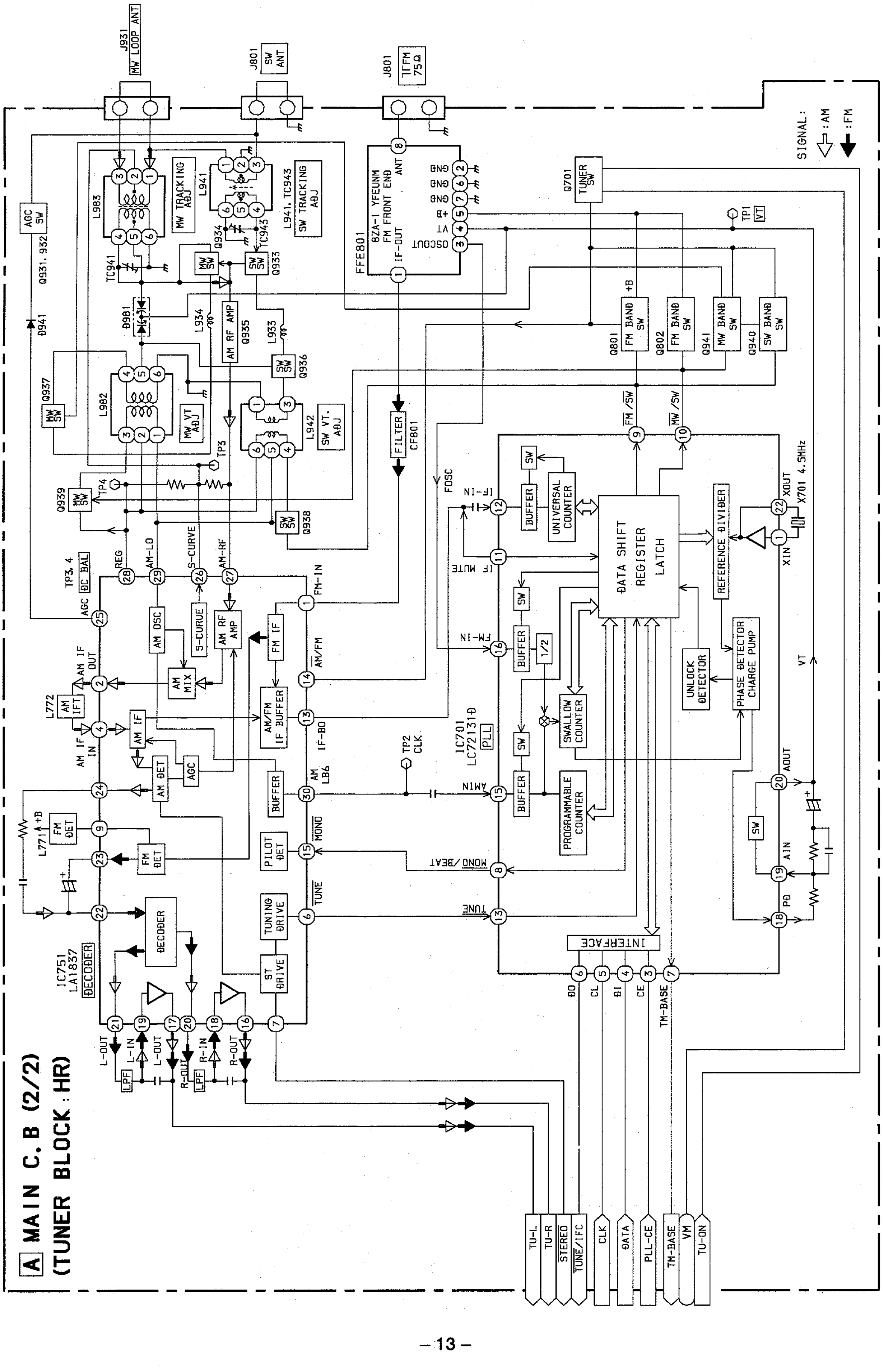


DTC144ES
DTA114YS
DTA114ES
DTC114YS
DTC114ES
DTC143ES
DTA144ES

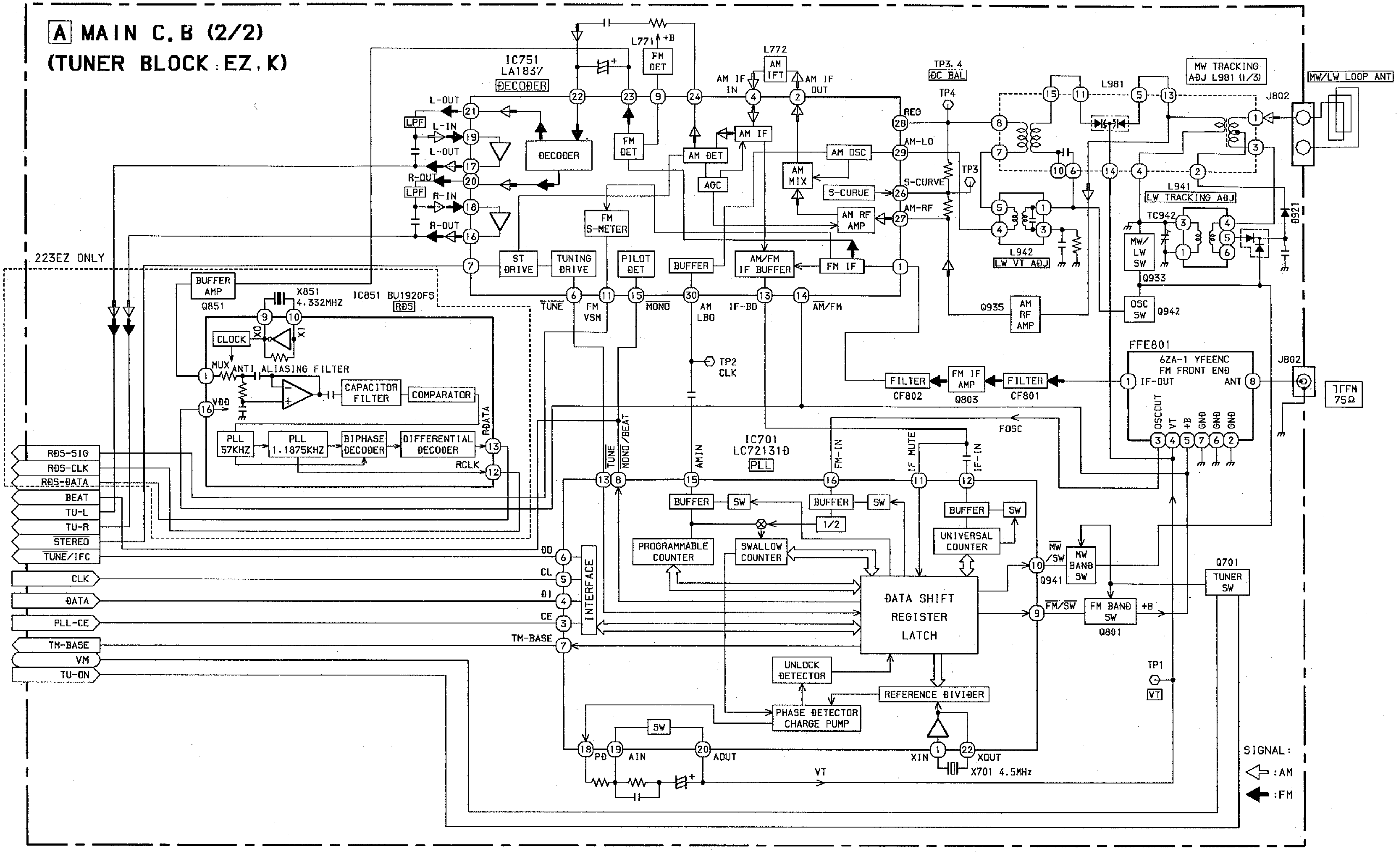
# BLOCK DIAGRAM – 1 (TUNER : HA, LH, V)


A MAIN C.B (2/2)
(TUNER BLOCK : LH, HA, V)
J801 AM LOOP ANT
J801 FM 75Ω
SIGNAL : AM :FM
L981
FFE801 FM FRONT END
LH,HA:8ZA-1 YFEUNM
V:6ZA-1 FEVNM
ANT
GND
+B
VT
OSCOUT
IF-OUT
Q701 TUNER SW
TP1 VT
VCC
Q801 FM BAND SW
FM/SW
FILTER CF801
FM IF AMP Q803
FILTER CF802
V ONLY
FOSC
TP3,4 DC BAL
TP3
TP4
REG
AM-LO
S-CURVE
AM-RF
FM IF IN
AM OSC
S-CURVE
AM RF AMP
FM IF
AM MIX
AM IF OUT
L772 AM IFT
AM IF IN
AM IF
AGC
AM DET
AM/FM IF BUFFER
AM/FM
IF-BO
BUFFER
AM LBO
TP2 CLK
L771
FM DET
FM DET
+B
FM
DET IN
AM
PILOT DET
MONO
TUNING DRIVE
TUNE
DECODER
ST DRIVE
IC751 LA1837NL DECODER
L-OUT
L-IN
R-OUT
R-IN
LPF
IF-IN
IF MUTE
FM-IN
AMIN
MONO/BEAT
TUNE
BUFFER
SW
UNIVERSAL COUNTER
1/2
SWALLOW COUNTER
PROGRAMMABLE COUNTER
DATA SHIFT REGISTER LATCH
REFERENCE DIVIDER
UNLOCK DETECTOR
PHASE DETECTOR CHARGE PUMP
IC701 LC72131D PLL
XOUT
X701 4.5MHz
XIN
VT
AOUT
AIN
PD
INTERFACE
DO
CL
DI
CE
TM-BASE
TU-L
TU-R
STEREO
TUNE/IFC
CLK
DATA
PLL-CE
TM-BASE
VM
TU-ON

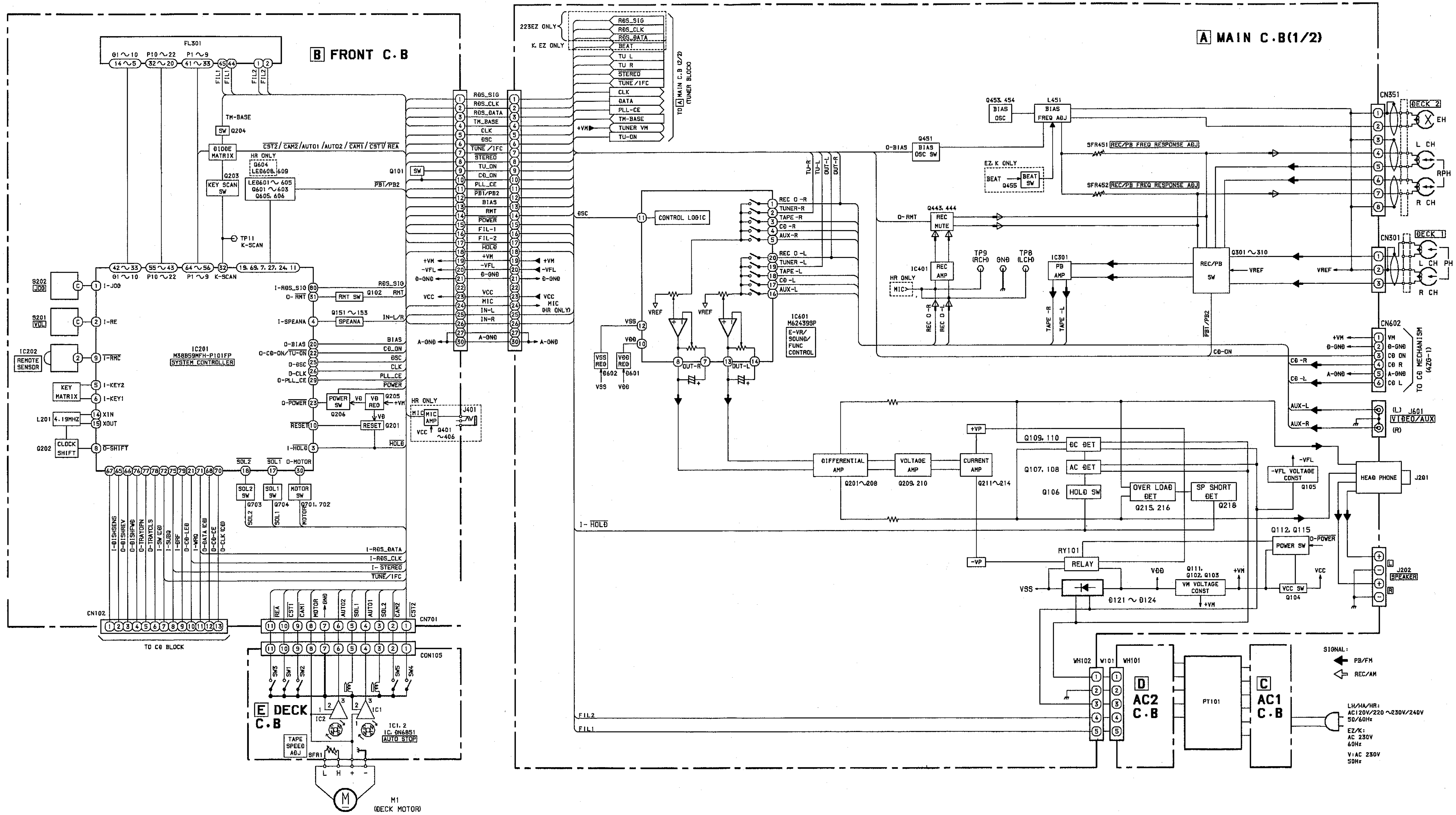
# BLOCK DIAGRAM – 2 (TUNER : HR)

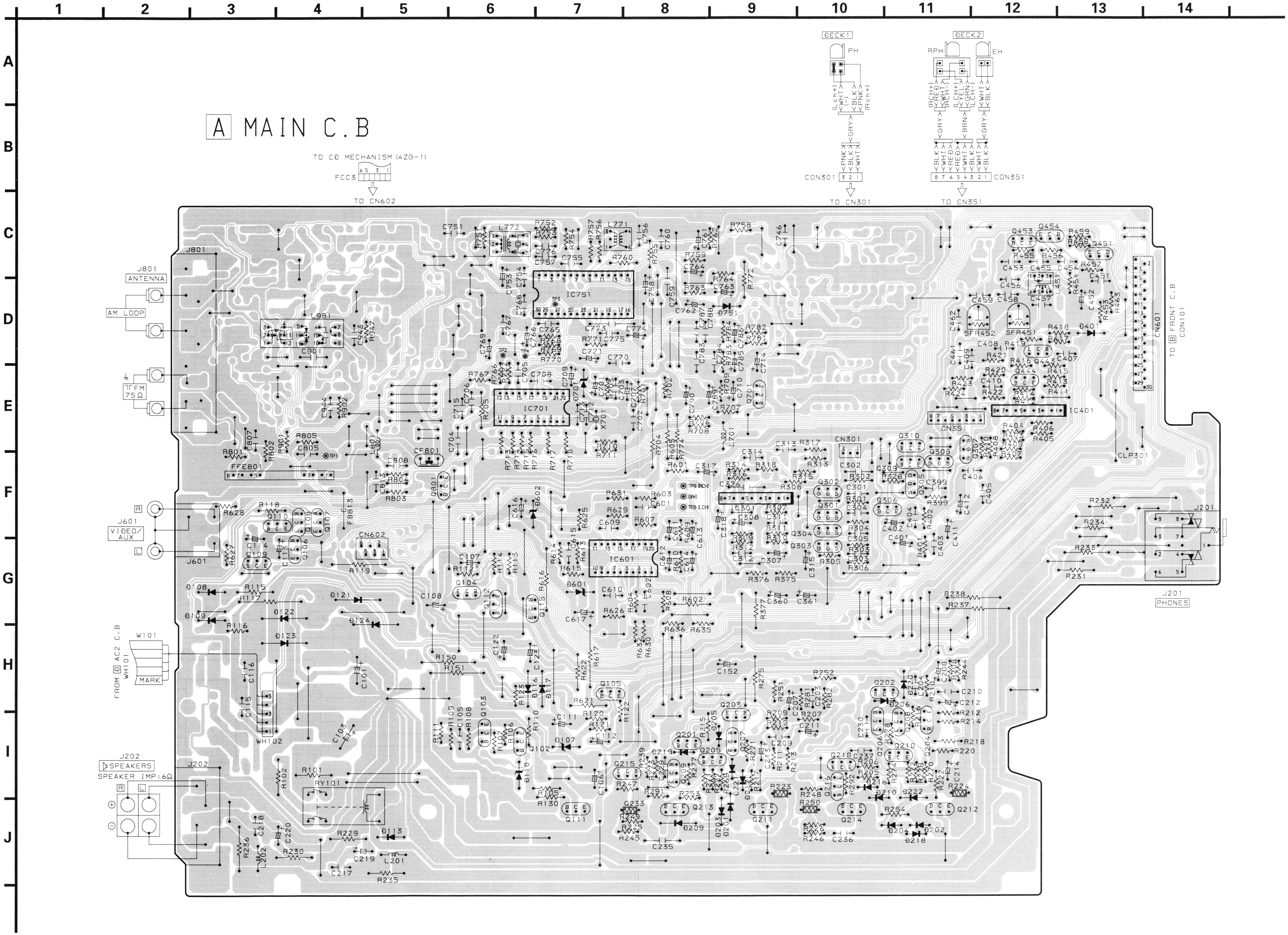

A MAIN C.B (2/2)
(TUNER BLOCK : HR)
J931 MW LOOP ANT
J801 SW ANT
J801 FM 75Ω
SIGNAL: AM FM
AGC SW Q931, 932
D941
L983
MW TRACKING ADJ
L941
L941, TC943 SW TRACKING ADJ
TC941
Q934 MW SW
TC943
Q933 SW SW
D981
L934
AM RF AMP Q935
L933
Q936 SW SW
Q937 MW SW
L982
MW VT ADJ
TP3
L942
SW VT. ADJ
TP4
Q939 MW SW
Q938 SW SW
TP3, 4 DC BAL
FFE801 8ZA-1 YFEUNM FM FRONT END
ANT
GND
+B
VT
OSCOUT
IF-OUT
FILTER CF801
FOSC
Q701 TUNER SW
TP1 VT
Q801 FM BAND SW
Q802 FM BAND SW
Q941 MW BAND SW
Q940 SW BAND SW
+B
FM/SW
MW/SW
X701 4.5MHz
XOUT
XIN
IF-IN
IF MUTE
FM-IN
AMIN
MONO/BEAT
TUNE
BUFFER
SW
UNIVERSAL COUNTER
DATA SHIFT REGISTER LATCH
REFERENCE DIVIDER
1/2
SWALLOW COUNTER
PROGRAMMABLE COUNTER
UNLOCK DETECTOR
PHASE DETECTOR CHARGE PUMP
IC701 LC72131D PLL
TP2 CLK
AOUT
AIN
PD
VT
INTERFACE
DO
CL
DI
CE
TM-BASE
REG
AM-LO
S-CURVE
AM-RF
FM-IN
AGC
AM OSC
S-CURVE
AM RF AMP
FM IF
AM MIX
AM IF OUT
AM/FM
L772 AM IFT
AM IF IN
AM IF
AM/FM IF BUFFER
IF-BO
AM DET
AGC
AM LB6
BUFFER
L771 FM DET
+B
FM DET
PILOT DET
MONO
TUNING DRIVE
TUNE
DECODER
ST DRIVE
IC751 LA1837 DECODER
L-OUT
L-IN
R-OUT
R-IN
LPF
TU-L
TU-R
STEREO
TUNE/IFC
CLK
DATA
PLL-CE
TM-BASE
VM
TU-ON

# BLOCK DIAGRAM – 1 (TUNER : K, EZ)

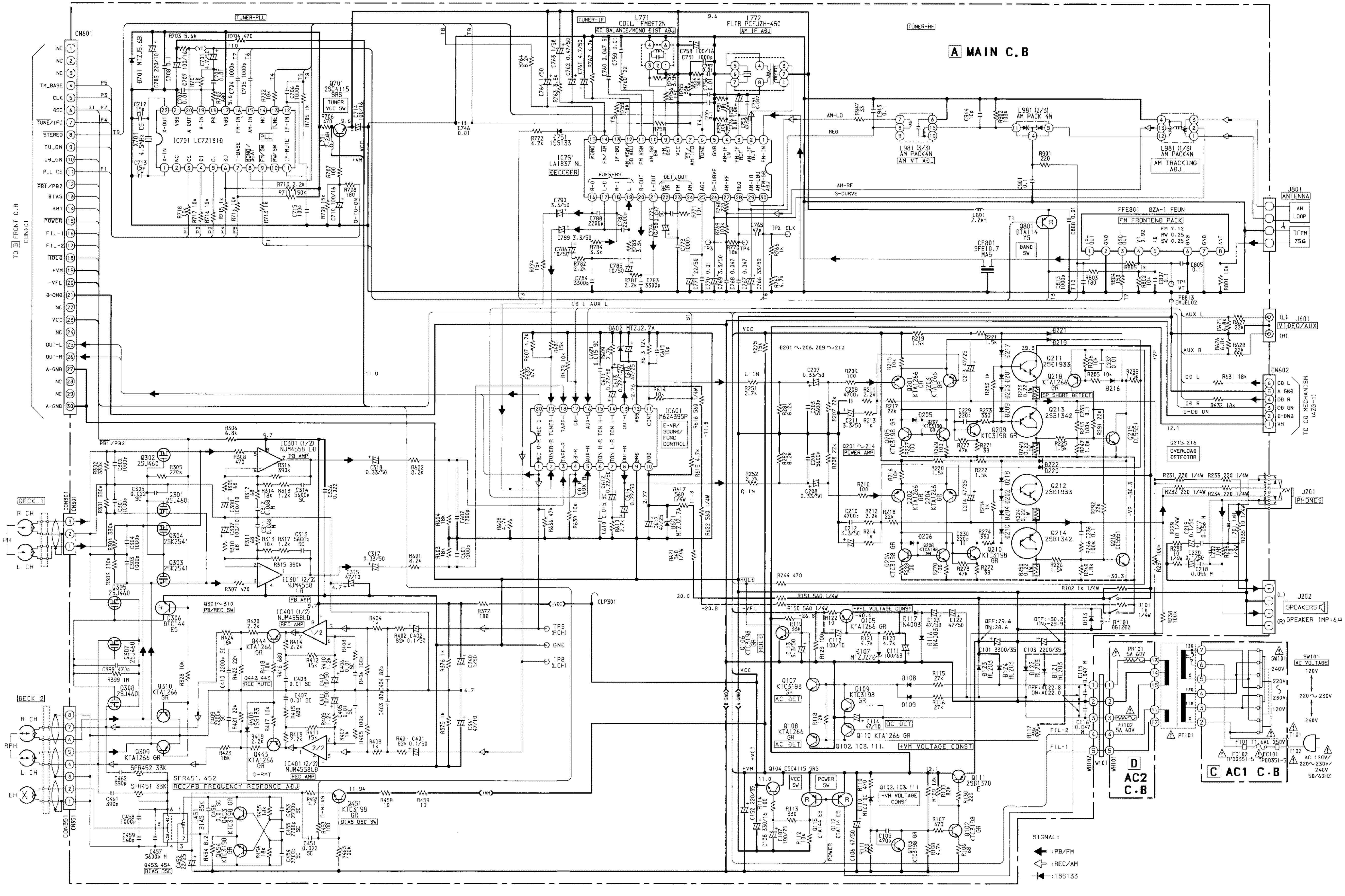

A MAIN C.B (2/2)
(TUNER BLOCK : EZ, K)
IC751
LA1837
DECODER
L-OUT
L-IN
R-OUT
R-IN
LPF
DECODER
FM DET
L771
+B
L772
AM IFT
AM IF IN
AM IF OUT
AM IF
AM DET
AGC
AM MIX
AM OSC
S-CURVE
AM RF AMP
FM IF
AM/FM IF BUFFER
BUFFER
PILOT DET
FM S-METER
TUNING DRIVE
ST DRIVE
TUNE
FM VSM
MONO
AM LBO
IF-BO
AM/FM
REG
AM-LO
S-CURVE
AM-RF
TP3, 4
DC BAL
TP4
TP3
TP2
CLK
L981
MW TRACKING ADJ L981 (1/3)
MW/LW LOOP ANT
J802
L941
LW TRACKING ADJ
TC942
L942
LW VT ADJ
MW/LW SW
Q933
OSC SW
Q942
AM RF AMP
Q935
FFE801
6ZA-1 YFEENC
FM FRONT END
IF-OUT
ANT
OSCOUT
VT
+B
GND
GND
GND
J802
FM 75Ω
FILTER
CF801
FM IF AMP
Q803
FILTER
CF802
FOSC
223EZ ONLY
BUFFER AMP
Q851
X851
4.332MHZ
IC851 BU1920FS
RDS
CLOCK
OX
IX
MUX
ANTI ALIASING FILTER
CAPACITOR FILTER
COMPARATOR
VDD
PLL 57KHZ
PLL 1.1875KHZ
BIPHASE DECODER
DIFFERENTIAL DECODER
RDATA
RCLK
IC701
LC72131D
PLL
TUNE
MONO/BEAT
AMIN
FM-IN
IF MUTE
IF-IN
BUFFER
SW
1/2
PROGRAMMABLE COUNTER
SWALLOW COUNTER
UNIVERSAL COUNTER
DATA SHIFT REGISTER LATCH
INTERFACE
DO
CL
DI
CE
TM-BASE
UNLOCK DETECTOR
REFERENCE DIVIDER
PHASE DETECTOR CHARGE PUMP
PD
AIN
AOUT
XIN
XOUT
X701 4.5MHz
VT
MW/SW
Q941
MW BAND SW
FM/SW
FM BAND SW
Q801
+B
Q701
TUNER SW
TP1
VT
RDS-SIG
RDS-CLK
RDS-DATA
BEAT
TU-L
TU-R
STEREO
TUNE/IFC
CLK
DATA
PLL-CE
TM-BASE
VM
TU-ON
SIGNAL:
:AM
:FM

# BLOCK DIAGRAM – 4 (MAIN / FRONT)

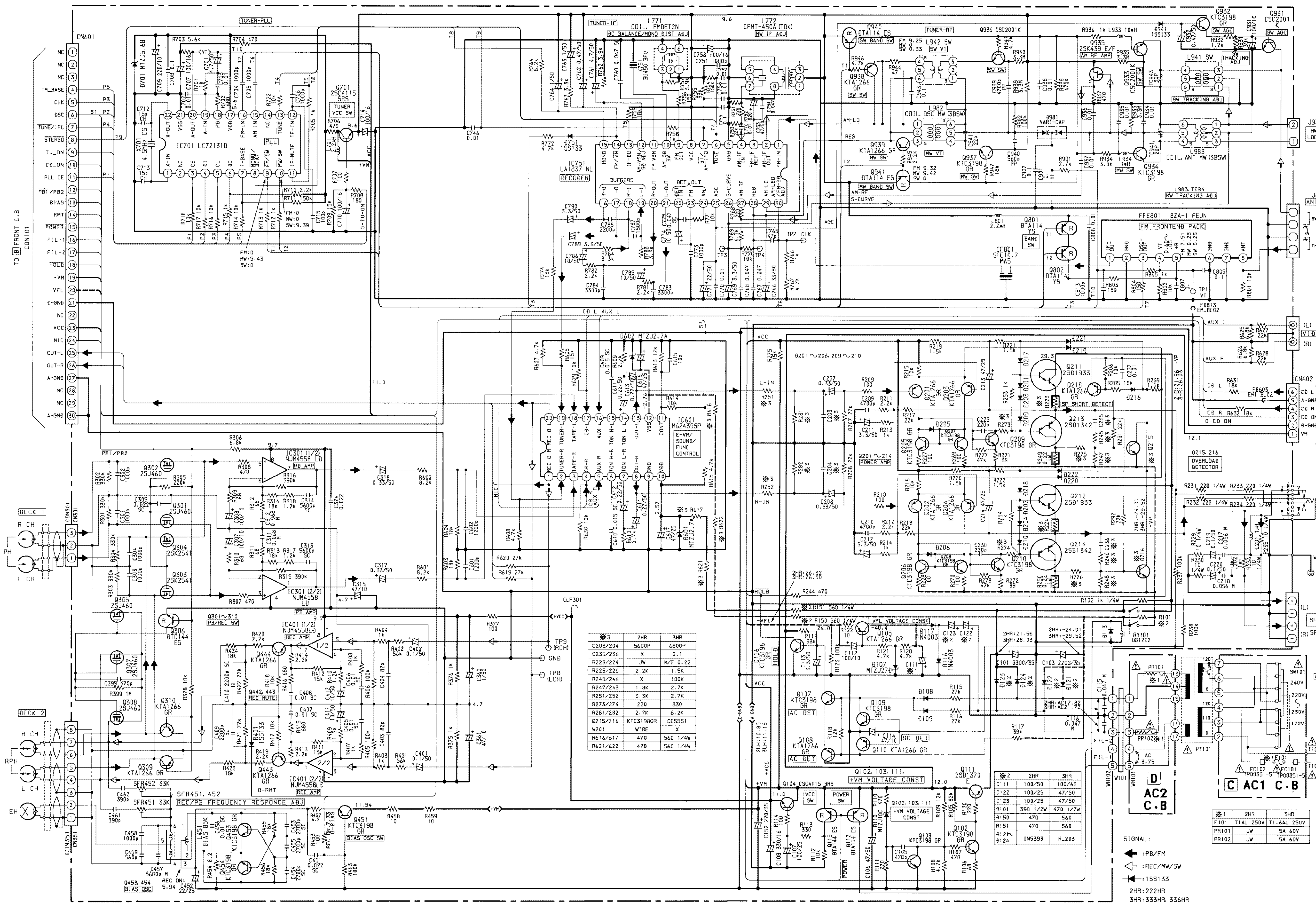

B FRONT C.B
FL301
IC201 M38B59MFH-P101FP SYSTEM CONTROLLER
DIODE MATRIX
KEY SCAN SW
Q203
Q204
TM-BASE
HR ONLY
Q604 LED608, 609
LED601 ~ 605 Q601 ~ 603 Q605, 606
TP11 K-SCAN
S202 JOG
S201 VOL
IC202 REMOTE SENSOR
KEY MATRIX
L201 4.19MHZ
Q202 CLOCK SHIFT
RMT SW Q102
Q151 ~ 153 SPEANA
POWER SW Q206
VD REG Q205
RESET Q201
MIC AMP Q401 ~ 406
J401
SOL2 SW Q703
SOL1 SW Q704
MOTOR SW Q701, 702
CN102
TO CD BLOCK
CN701
CN105
E DECK C.B
IC1, 2 IC, DN6851 AUTO STOP
TAPE SPEED ADJ SFR1
M1 (DECK MOTOR)
A MAIN C.B(1/2)
223EZ ONLY
K, EZ ONLY
TO A MAIN C.B (2/2) (TUNER BLOCK)
CONTROL LOGIC
IC601 M62439SP E-VR/SOUND/FUNC CONTROL
VSS REG Q602
VDD REG Q601
OUT-R
OUT-L
Q453, 454 BIAS OSC
L451 BIAS FREQ ADJ
Q451 BIAS OSC SW
EZ, K ONLY
BEAT SW Q455
SFR451 REC/PB FREQ RESPONSE ADJ
SFR452 REC/PB FREQ RESPONSE ADJ
Q443, 444 REC MUTE
IC401 REC AMP
HR ONLY MIC
TP9 (RCH)
GND
TP8 (LCH)
IC301 PB AMP
REC/PB SW
Q301 ~ 310
CN351 DECK 2
EH
L CH
R CH
RPH
CN301 DECK 1
PH
CN602
TO CD MECHANISM (4ZG-1)
J601 VIDEO/AUX
DIFFERENTIAL AMP Q201 ~ 208
VOLTAGE AMP Q209, 210
CURRENT AMP Q211 ~ 214
Q109, 110 DC DET
Q107, 108 AC DET
Q106 HOLD SW
OVER LOAD DET Q215, 216
SP SHORT DET Q218
-VFL VOLTAGE CONST Q105
HEAD PHONE J201
Q112, Q115 POWER SW
J202 SPEAKER
RY101 RELAY
D121 ~ D124
Q111, Q102, Q103 VM VOLTAGE CONST
VCC SW Q104
WH102
W101
WH101
D AC2 C.B
PT101
C AC1 C.B
SIGNAL:
PB/FM
REC/AM
LH/HA/HR: AC120V/220 ~230V/240V 50/60Hz
EZ/K: AC 230V 60Hz
V:AC 230V 50Hz


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
A MAIN C.B
TO CD MECHANISM (4ZG-1)
FCC3
TO CN602
DECK1
PH
DECK2
RPH
EH
CON301
TO CN301
CON351
TO CN351
J801
ANTENNA
AM LOOP
FM 75Ω
J601
VIDEO/AUX
FROM D AC2 C.B
W101
WH101
MARK
WH102
J202
SPEAKERS
SPEAKER IMP:6Ω
RY101
J201
PHONES
TO B FRONT C.B
CON101
CN601
CN602
CN301
CN351
IC751
IC701
IC601
IC301
IC401
L981
L772
L771
CF801
FFE801
FB813
SFR452
SFR451
CLP301
X701

# SCHEMATIC DIAGRAM – 1 (MAIN : HA, LH)


A MAIN C.B
TUNER-PLL
TUNER-IF
TUNER-RF
CN601
TO B FRONT C.B CON101
NC
TM_BASE
CLK
OSC
TUNE/IFC
STEREO
TU_ON
CD_ON
PLL CE
PBT/PB2
BIAS
RMT
POWER
FIL-1
FIL-2
HOLD
+VM
-VFL
D-GND
VCC
OUT-L
OUT-R
A-GND
IC701 LC72131D
PLL
X701 4.5MHz
D701 MTZJ5.6B
Q701 2SC4115 SRS
TUNER VCC SW
L771 COIL FMDET2N
DC BALANCE/MONO DIST ADJ
L772 FLTR PCFJZH-450
AM IF ADJ
IC751 LA1837 NL
DECODER
BUFFERS
DET OUT
D751 1SS133
L981 (2/3) AM PACK 4N
L981 (3/3) AM PACK4N
AM VT ADJ
L981 (1/3) AM PACK4N
AM TRACKING ADJ
J801 ANTENNA
AM LOOP
FM 75Ω
FFE801 BZA-1 FEUN
FM FRONTEND PACK
CF801 SFE10.7 MA5
Q801 DTA114 YS
BAND SW
L801 2.2μH
FB813 EMJBL02
AM-LO
REG
AM-RF
S-CURVE
CD L AUX L
D602 MTZJ2.7A
IC601 M62439SP
E-VR/SOUND/FUNC CONTROL
J601 VIDEO/AUX
CN602 TO CD MECHANISM (420-1)
CD L
A-GND
CD R
CD ON
D-GND
VM
D201 ~ 206, 209 ~ 210
Q201 ~ 214 POWER AMP
Q211 2SD1933
Q213 2SB1342
Q212 2SD1933
Q214 2SB1342
Q218 KTA1266 GR
SP SHORT DETECT
Q215, 216 OVERLOAD DETECTOR
Q215 2SC5551
Q216 2SC5551
J201 PHONES
J202 SPEAKERS
SPEAKER IMP:6Ω
RY101 G6-1202
DECK 1
DECK 2
CON301
CON351
R CH
L CH
PH
RPH
EH
Q302 2SJ460
Q301 2SJ460
Q304 2SK2541
Q303 2SK2541
Q305 2SJ460
Q306 DTC144 ES
Q307 2SJ460
Q308 2SJ460
Q301 ~ 310 PB/REC SW
Q310 KTA1266 GR
Q309 KTA1266 GR
IC301 (1/2) NJM4558 LD
PB AMP
IC301 (2/2) NJM4558 LD
IC401 (1/2) NJM4558LD
REC AMP
IC401 (2/2) NJM4558LD
Q444 KTA1266 GR
Q442, 443 REC MUTE
Q443 KTA1266 GR
D-RMT
SFR451, 452
REC/PB FREQUENCY RESPONCE ADJ
SFR452 33K
SFR451 33K
Q451 KTC3198 GR
BIAS OSC SW
Q453, 454 BIAS OSC
Q453 KTC3198 GR
Q454 KTC3198 GR
CLP301
TP9 (RCH)
GND
TP8 (LCH)
-VFL VOLTAGE CONST
Q105 KTA1266 GR
Q107 KTC3198 GR
AC DET
Q108 KTA1266 GR
Q109 KTC3198 GR
DC DET
Q110 KTA1266 GR
Q102, 103, 111, +VM VOLTAGE CONST
Q104 2SC4115 SRS
VCC SW
POWER SW
Q111 2SB1370
Q102 KTC3198 GR
Q103 KTC3198 GR
D AC2 C.B
C AC1 C.B
PR101 5A 60V
PR102 5A 60V
PT101
SW101 AC VOLTAGE
120V
220~230V
240V
F101 T1.6AL 250V
T101
AC 120V/220~230V/240V 50/60HZ
SIGNAL:
:PB/FM
:REC/AM
:1SS133

# SCHEMATIC DIAGRAM – 2 (MAIN : HR)


TUNER-PLL
IC701 LC72131D
PLL
TUNER-IF
L771 COIL FMDET2N
DC BALANCE/MONO DIST ADJ
L772 CFMT-450A (TOK)
MW IF ADJ
IC751 LA1837 NL
DECODER
TUNER-RF
Q936 CSC2001K
L941 SW TRACKING ADJ
L982 COIL OSC MW (3BSW)
L983 COIL ANT MW (3BSW)
L983 TC941 MW TRACKING ADJ
VARI-CAP
J931 MW LOOP
J801 ANTENNA
FFE801 BZA-1 FEUN
FM FRONTEND PACK
CN601
TO [B] FRONT C.B CON101
NC
TM_BASE
CLK
OSC
TUNE/IFC
STEREO
TU_ON
CD_ON
PLL CE
PB1/PB2
BIAS
RMT
POWER
FIL-1
FIL-2
HOLD
+VM
-VFL
B-GND
VCC
MIC
OUT-L
OUT-R
A-GND
IC601 M62439SP
E-VR/SOUND/FUNC CONTROL
CD L AUX L
J601 VIDEO/AUX
CN602
TO CD MECHANISM (4ZG-1)
CD L
A-GND
CD R
CD ON
B-GND
VM
POWER AMP
SP SHORT DETECT
OVERLOAD DETECTOR
Q211 2SB1933
Q212 2SB1933
Q213 2SB1342
Q214 2SB1342
J201 PHONES
W201 WIRE FASTON
J202 SPEAKERS
SPEAKER IMP: 6Ω
RY101 BD1202
DECK 1
DECK 2
CN301
CN351
R CH
L CH
PH
RPH
EH
IC301 (1/2) NJM4558 LD
IC301 (2/2) NJM4558 LD
PB AMP
PB/REC SW
IC401 (1/2) NJM4558LD
IC401 (2/2) NJM4558LD
REC AMP
REC MUTE
D-RMT
SFR451, 452
REC/PB FREQUENCY RESPONCE ADJ
BIAS OSC SW
BIAS OSC
CLP301
TP9 (RCH)
TP8 (LCH)
GND
-VFL VOLTAGE CONST
AC DET
DC DET
+VM VOLTAGE CONST
VCC SW
POWER SW
HOLD
PT101
SW101 AC VOLTAGE
120V
220 ~ 230V
240V
T101
T102
AC 120V/ 220~230V/ 240V 50/60HZ
FC102 TP00351-5
FC101 TP00351-5
[C] AC1 C·B
[D] AC2 C·B
WH101
WH102
W101
AC 3.75

| ※3 | 2HR | 3HR |
|---|---|---|
| C203/204 | 5600P | 6800P |
| C235/236 | X | 0.1 |
| R223/224 | JW | M/F 0.22 |
| R225/226 | 2.2K | 1.5K |
| R245/246 | X | 100K |
| R247/248 | 1.8K | 2.7K |
| R251/252 | 3.3K | 2.7K |
| R273/274 | 220 | 330 |
| R281/282 | 2.7K | 8.2K |
| Q215/216 | KTC3198GR | CC5551 |
| W201 | WIRE | X |
| R616/617 | 470 | 560 1/4W |
| R621/622 | 470 | 560 1/4W |

| ※2 | 2HR | 3HR |
|---|---|---|
| C111 | 100/50 | 100/63 |
| C122 | 100/25 | 47/50 |
| C123 | 100/25 | 47/50 |
| R101 | 390 1/2W | 470 1/2W |
| R150 | 470 | 560 |
| R151 | 470 | 560 |
| D121~<br>D124 | IN5393 | RL203 |

| ※1 | 2HR | 3HR |
|---|---|---|
| F101 | T1AL 250V | T1.6AL 250V |
| PR101 | JW | 5A 60V |
| PR102 | JW | 5A 60V |

SIGNAL:

◀ :PB/FM

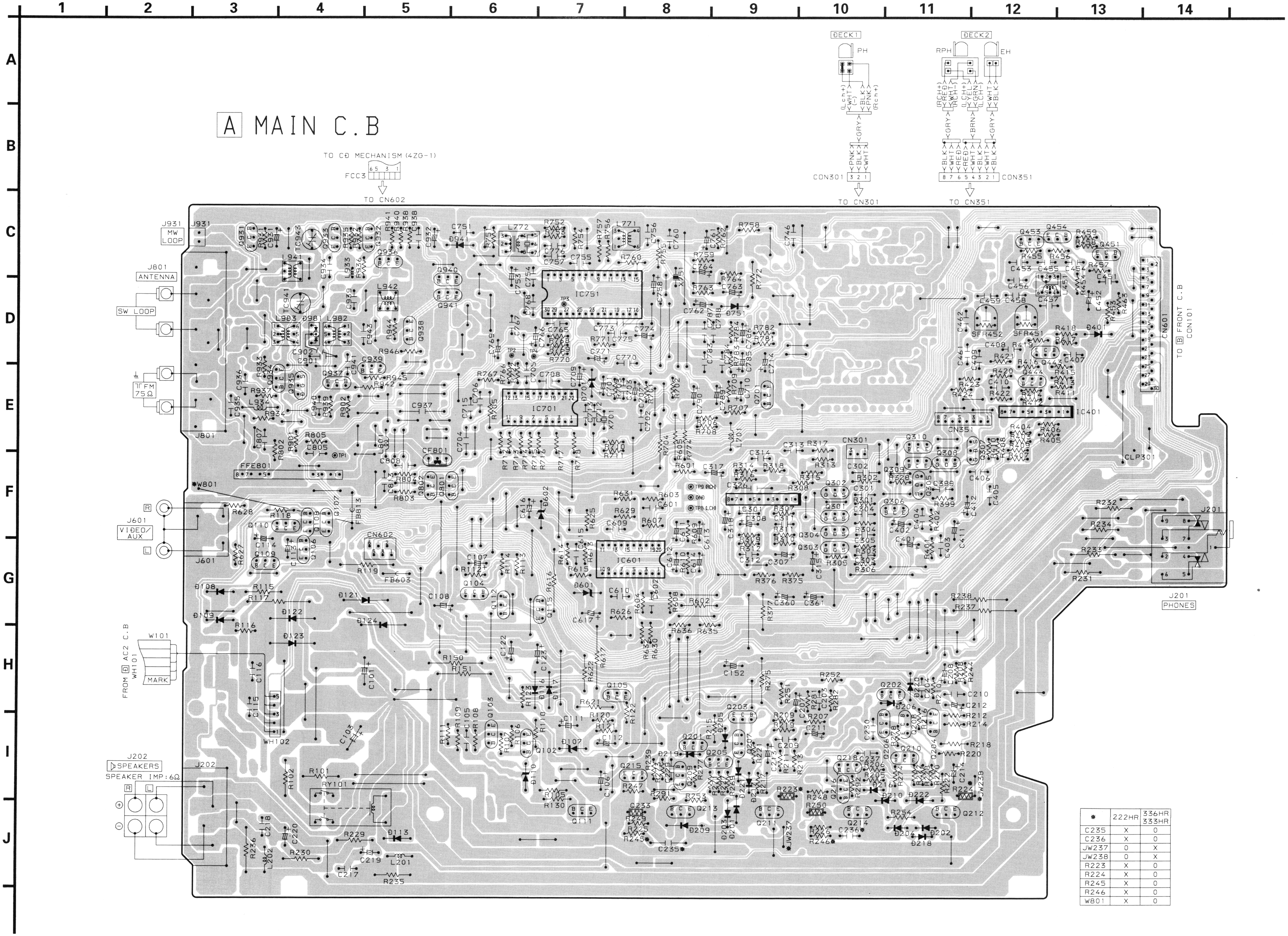
◁ :REC/MW/SW

▶| :1SS133

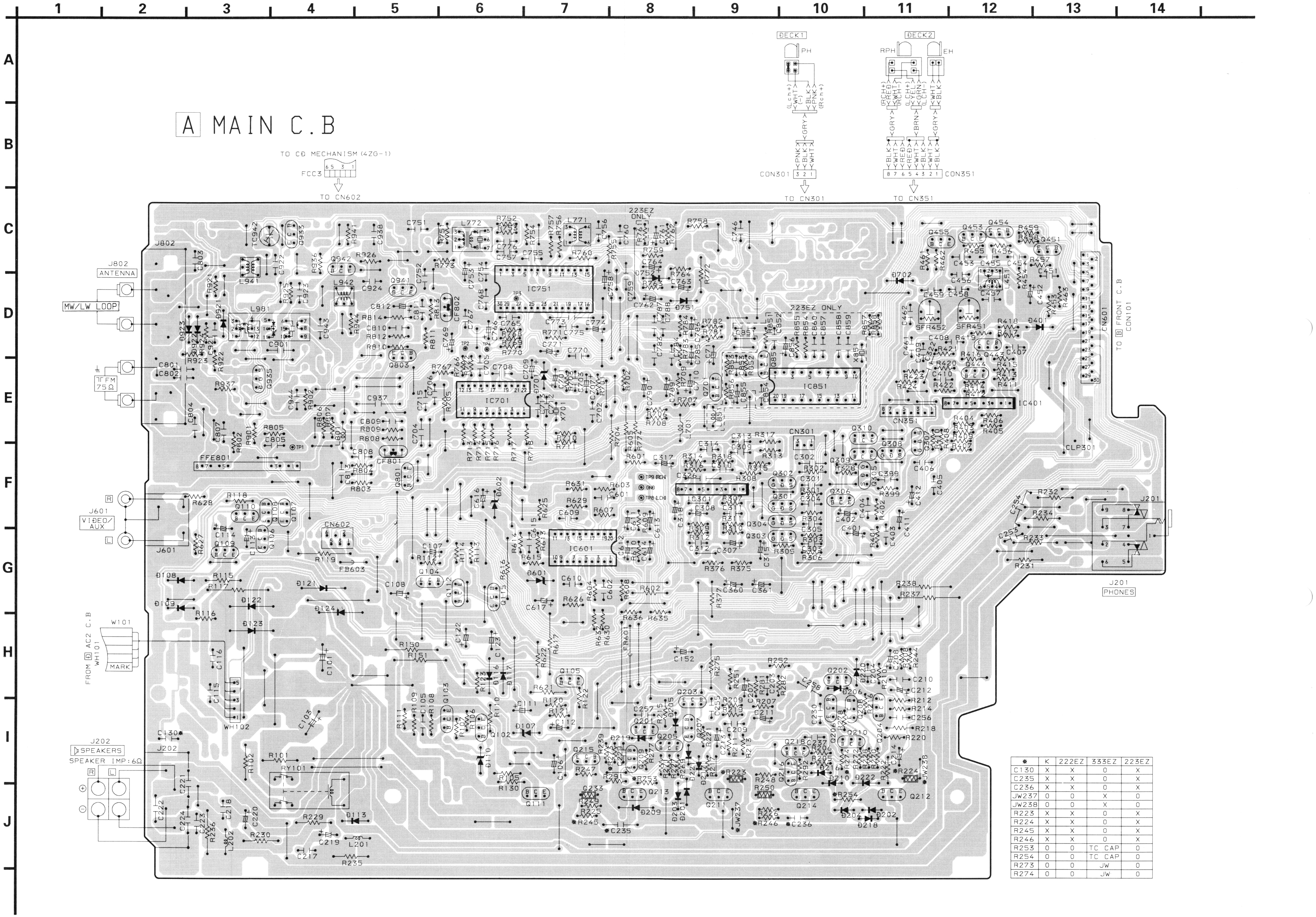
2HR:222HR

3HR:333HR, 336HR

## WIRING – 2 (MAIN : HR)


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
A MAIN C.B
TO CD MECHANISM (4ZG-1)
FCC3
TO CN602
DECK1
PH
CON301
TO CN301
DECK2
RPH
EH
CON351
TO CN351
J931
MW LOOP
J801
ANTENNA
SW LOOP
FM 75Ω
FFE801
*W801
J601
VIDEO/AUX
R
L
CN602
FB603
FROM D AC2 C.B WH101
W101
MARK
WH102
J202
SPEAKERS
SPEAKER IMP: 6Ω
RY101
IC751
IC701
IC601
IC401
CN301
CN351
CLP301
CN601
TO B FRONT C.B CON101
J201
PHONES
SFR452
SFR451

| ✱ | 222HR | 336HR<br>333HR |
|---|---|---|
| C235 | X | 0 |
| C236 | X | 0 |
| JW237 | 0 | X |
| JW238 | 0 | X |
| R223 | X | 0 |
| R224 | X | 0 |
| R245 | X | 0 |
| R246 | X | 0 |
| W801 | X | 0 |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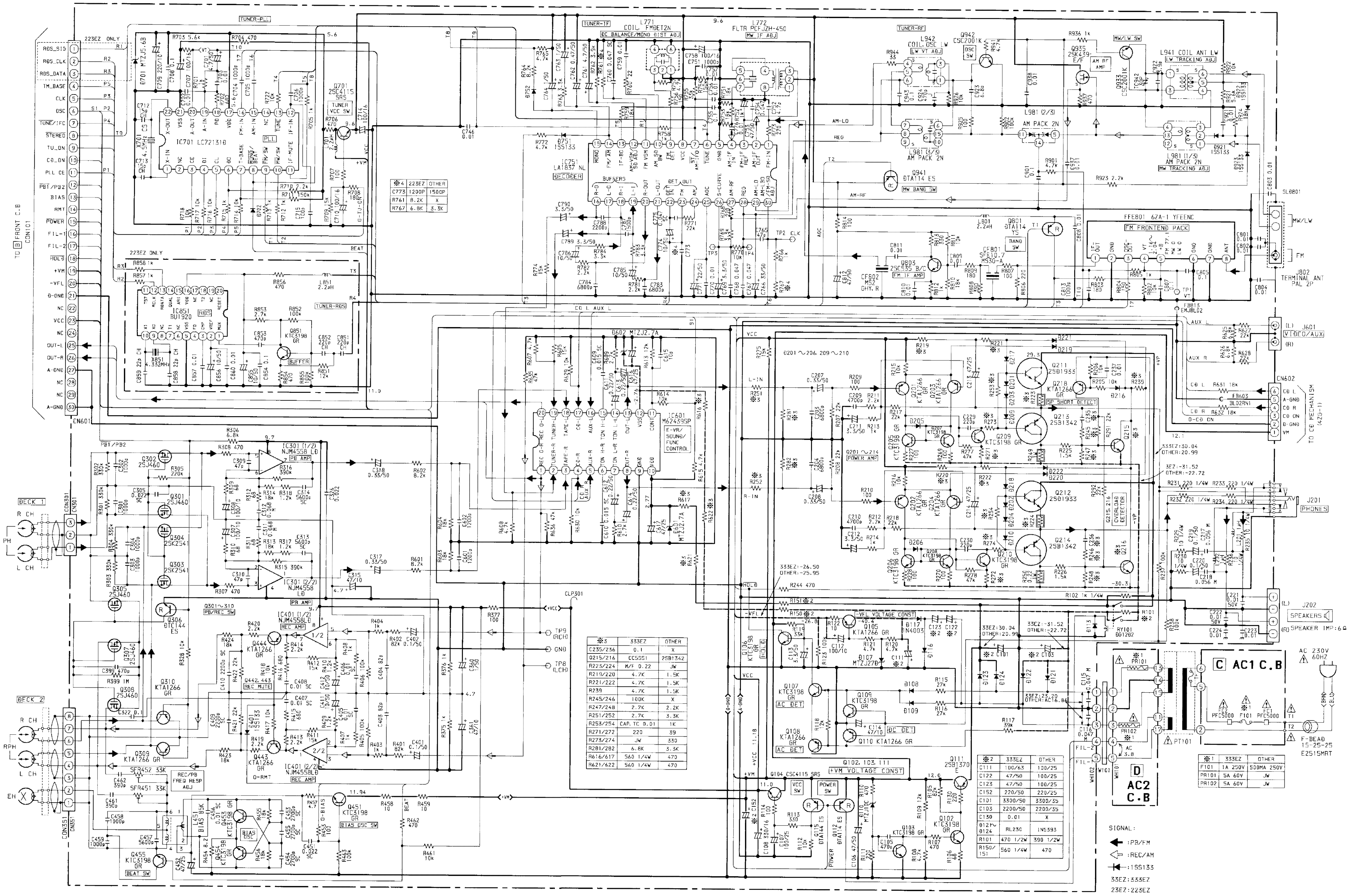
C
D
E
F
G
H
I
J
A MAIN C.B
TO CD MECHANISM (4ZG-1)
FCC3
TO CN602
DECK1
PH
DECK2
RPH
EH
CON301
TO CN301
CON351
TO CN351
223EZ ONLY
J802
ANTENNA
MW/LW LOOP
FM 75Ω
J601
VIDEO/AUX
R
L
FROM D AC2 C.B WH101
W101
MARK
WH102
J202
SPEAKERS
SPEAKER IMP:6Ω
RY101
IC751
IC701
IC601
IC851
IC401
CN601
CN602
CN301
CN351
FFE801
CLP301
TO B FRONT C.B CON101
J201
PHONES

| ※ | K | 222EZ | 333EZ | 223EZ |
|---|---|---|---|---|
| C130 | X | X | 0 | X |
| C235 | X | X | 0 | X |
| C236 | X | X | 0 | X |
| JW237 | 0 | 0 | X | 0 |
| JW238 | 0 | 0 | X | 0 |
| R223 | X | X | 0 | X |
| R224 | X | X | 0 | X |
| R245 | X | X | 0 | X |
| R246 | X | X | 0 | X |
| R253 | 0 | 0 | TC CAP | 0 |
| R254 | 0 | 0 | TC CAP | 0 |
| R273 | 0 | 0 | JW | 0 |
| R274 | 0 | 0 | JW | 0 |

# SCHEMATIC DIAGRAM – 3 (MAIN : K, EZ)


TO B FRONT C.B CON101
CN601
TUNER-PLL
IC701 LC72131D
IC851 BU1920
TUNER-RDS
BUFFER
TUNER-IF
L771 COIL FMDET2N
EC BALANCE/MONO DIST ADJ
L772 FLTR PCFZJH-450
MW IF ADJ
IC751 LA1837 NL
DECODER
TUNER-RF
L942 COIL OSC LW
LW VT ADJ
L941 COIL ANT LW
LW TRACKING ADJ
L981 (2/3) AM PACK 2N
L981 (3/3) AM PACK 2N
L981 (1/3) AM PACK 2N
MW TRACKING ADJ
Q941 DTA114 ES
MW BAND SW
FFE801 67A-1 YFEENC
FM FRONTEND PACK
SL801 MW/LW
FM
J802 TERMINAL ANT PAL 2P
J601 VIDEO/AUX
CN602 TO CD MECHANISM (42G-1)
IC601 M62439SP
E-VR/ SOUND/ FUNC CONTROL
Q201∼206, 209∼210
Q201∼214 POWER AMP
SP SHORT DETECT
OVERLOAD DETECTOR
J201 PHONES
J202 SPEAKERS
SPEAKER IMP: 6Ω
DECK 1
DECK 2
CN301
CN351
IC301 (1/2) NJM4558 LD PB AMP
IC301 (2/2) NJM4558 LD PB AMP
Q301∼310 PB/REC SW
IC401 (1/2) NJM4558LD REC AMP
IC401 (2/2) NJM4558LD REC AMP
Q442,443 REC MUTE
REC/PB FREQ RESP ADJ
BIAS OSC
BIAS OSC SW
BEAT SW
-VFL VOLTAGE CONST
AC DET
DC DET
+VM VOLTAGE CONST
VCC SW
POWER SW
C AC1 C.B
D AC2 C.B
AC 230V 60HZ
F-BEAD 15-25-25 E2515MRT
PT101
SIGNAL:
:PB/FM
:REC/AM
:1SS133
33EZ:333EZ
23EZ:223EZ

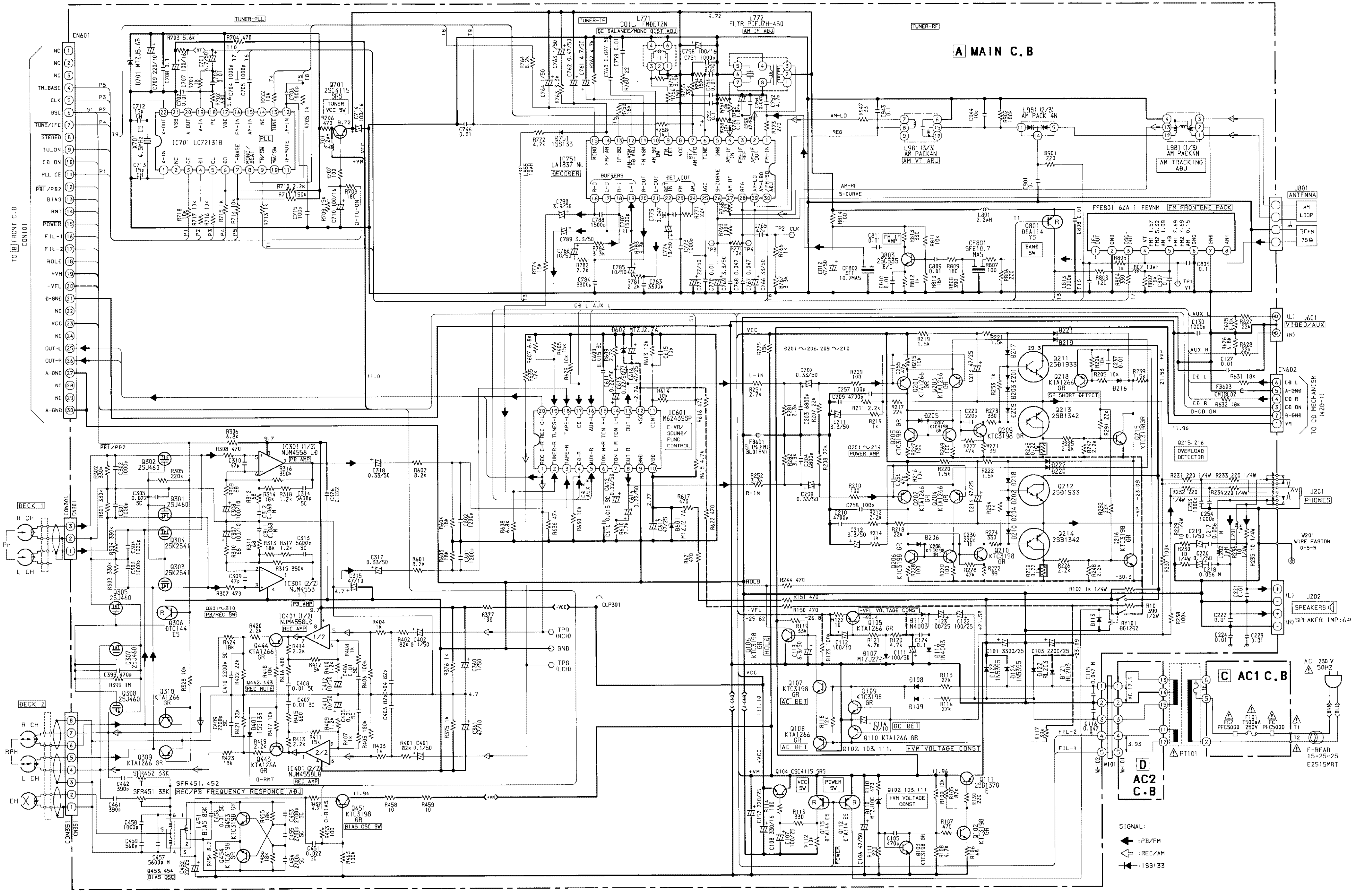
| ※4 | 223EZ | OTHER |
|---|---|---|
| C773 | 1200P | 1500P |
| R761 | 8.2K | X |
| R767 | 6.8K | 3.3K |

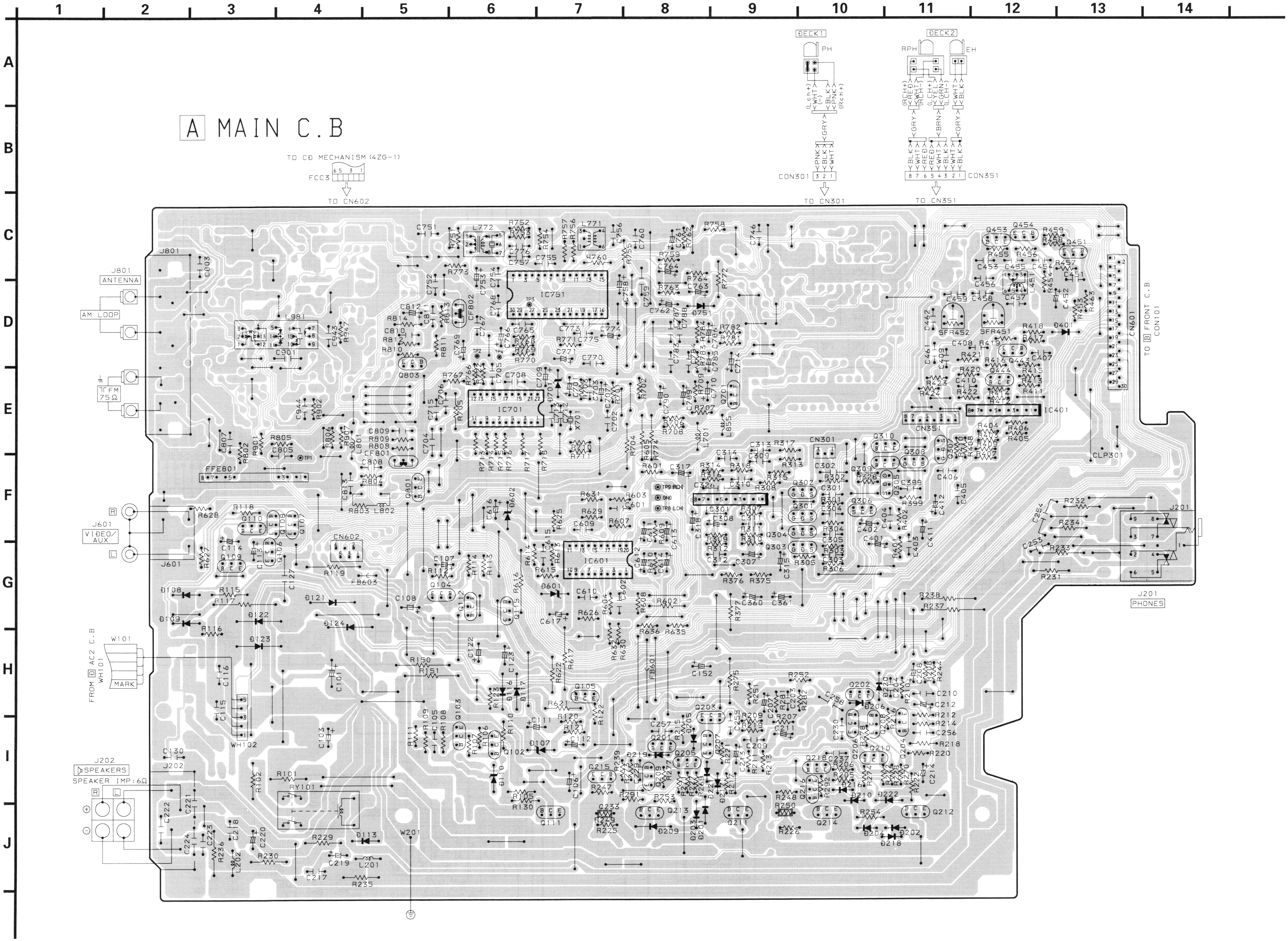
| ※3 | 333EZ | OTHER |
|---|---|---|
| C235/236 | 0.1 | X |
| Q215/216 | CC5551 | 2SB1342 |
| R223/224 | M/F 0.22 | JW |
| R219/220 | 4.7K | 1.5K |
| R221/222 | 4.7K | 1.5K |
| R239 | 4.7K | 1.5K |
| R245/246 | 100K | X |
| R247/248 | 2.7K | 2.2K |
| R251/252 | 2.7K | 3.3K |
| R253/254 | CAP. TC 0.01 | 1K |
| R271/272 | 220 | 39 |
| R273/274 | JW | 330 |
| R281/282 | 6.8K | 3.3K |
| R616/617 | 560 1/4W | 470 |
| R621/622 | 560 1/4W | 470 |

| ※2 | 333EZ | OTHER |
|---|---|---|
| C111 | 100/63 | 100/25 |
| C122 | 47/50 | 100/25 |
| C123 | 47/50 | 100/25 |
| C152 | 220/50 | 220/25 |
| C101 | 3300/50 | 3300/35 |
| C103 | 2200/50 | 2200/35 |
| C130 | 0.01 | X |
| D121∼<br>D124 | RL230 | 1N5393 |
| R101 | 470 1/2W | 390 1/2W |
| R150/<br>151 | 560 1/4W | 470 |

| ※1 | 333EZ | OTHER |
|---|---|---|
| F101 | 1A 250V | 500MA 250V |
| PR101 | 5A 60V | JW |
| PR102 | 5A 60V | JW |

# SCHEMATIC DIAGRAM – 4 (MAIN : V)


A MAIN C.B
TUNER-PLL
TUNER-IF
TUNER-RF
CN601
TO B FRONT C.B CON101
NC
TM_BASE
CLK
DSC
TUNE/IFC
STEREO
TU_ON
CD_ON
PLL CE
PBT/PB2
BIAS
RMT
POWER
FIL-1
FIL-2
HOLD
+VM
-VFL
D-GND
VCC
OUT-L
OUT-R
A-GND
IC701 LC72131B
PLL
X701 4.5MHz
Q701 2SC4115 SRS
TUNER VCC SW
L771 COIL, FMDET2N
DC BALANCE/MONO DIST ADJ
L772 FLTR PCFJZH-450
AM IF ADJ
IC751 LA1837 NL
DECODER
D751 1SS133
L981 (2/3) AM PACK 4N
L981 (3/3) AM PACK4N
AM VT ADJ
L981 (1/3) AM PACK4N
AM TRACKING ADJ
J801 ANTENNA
AM LOOP
FM 75Ω
FFE801 6ZA-1 FEVNM
FM FRONTEND PACK
Q801 DTA114 YS
BAND SW
Q803 2SC535 B/C
FM IF AMP
CF801 SFE10.7 MA5
CF802 SFE 10.7MA5
J601 VIDEO/AUX
CN602
TO CD MECHANISM (4Z0-1)
IC601 M62439SP
E-VR/ SOUND/ FUNC CONTROL
D602 MTZJ2.7A
D601 MTZJ2.7A
Q201∼206, 209∼210
Q201∼214 POWER AMP
Q211 2SB1933
Q212 2SB1933
Q213 2SB1342
Q214 2SB1342
Q218 KTA1266 GR
SP SHORT DETECT
Q215, 216 OVERLOAD DETECTOR
J201 PHONES
W201 WIRE FASTON 0-5-5
J202 SPEAKERS
SPEAKER IMP:6Ω
RY101 BG1202
DECK 1
DECK 2
CN301
CON351
IC301 (1/2) NJM4558 LD
IC301 (2/2) NJM4558 LD
PB AMP
Q301∼310 PB/REC SW
Q306 DTC144 ES
IC401 (1/2) NJM4558LD
IC401 (2/2) NJM4558LD
REC AMP
Q442, 443 REC MUTE
SFR451, 452
REC/PB FREQUENCY RESPONCE ADJ
Q451 KTC3198 GR
BIAS OSC SW
Q453, 454 BIAS OSC
L451 BIAS OSC
CLP301
TP9 (RCH)
GND
TP8 (LCH)
-VFL VOLTAGE CONST
Q106 KTC3198 GR HOLD
Q107 KTC3198 GR AC DET
Q108 KTA1266 GR AC DET
Q109 KTC3198 GR
Q110 KTA1266 GR
DC DET
Q102, 103, 111, +VM VOLTAGE CONST
Q104 CSC4115 SRS VCC SW
Q112 DTA144 ES POWER SW
Q111 2SB1370
D101 1N5395
D102 1N5395
C AC1 C.B
AC 230 V 50HZ
F101 T500mA 250V
PT101
F-BEAD 15-25-25 E2515MRT
D AC2 C.B
SIGNAL:
:PB/FM
:REC/AM
:1SS133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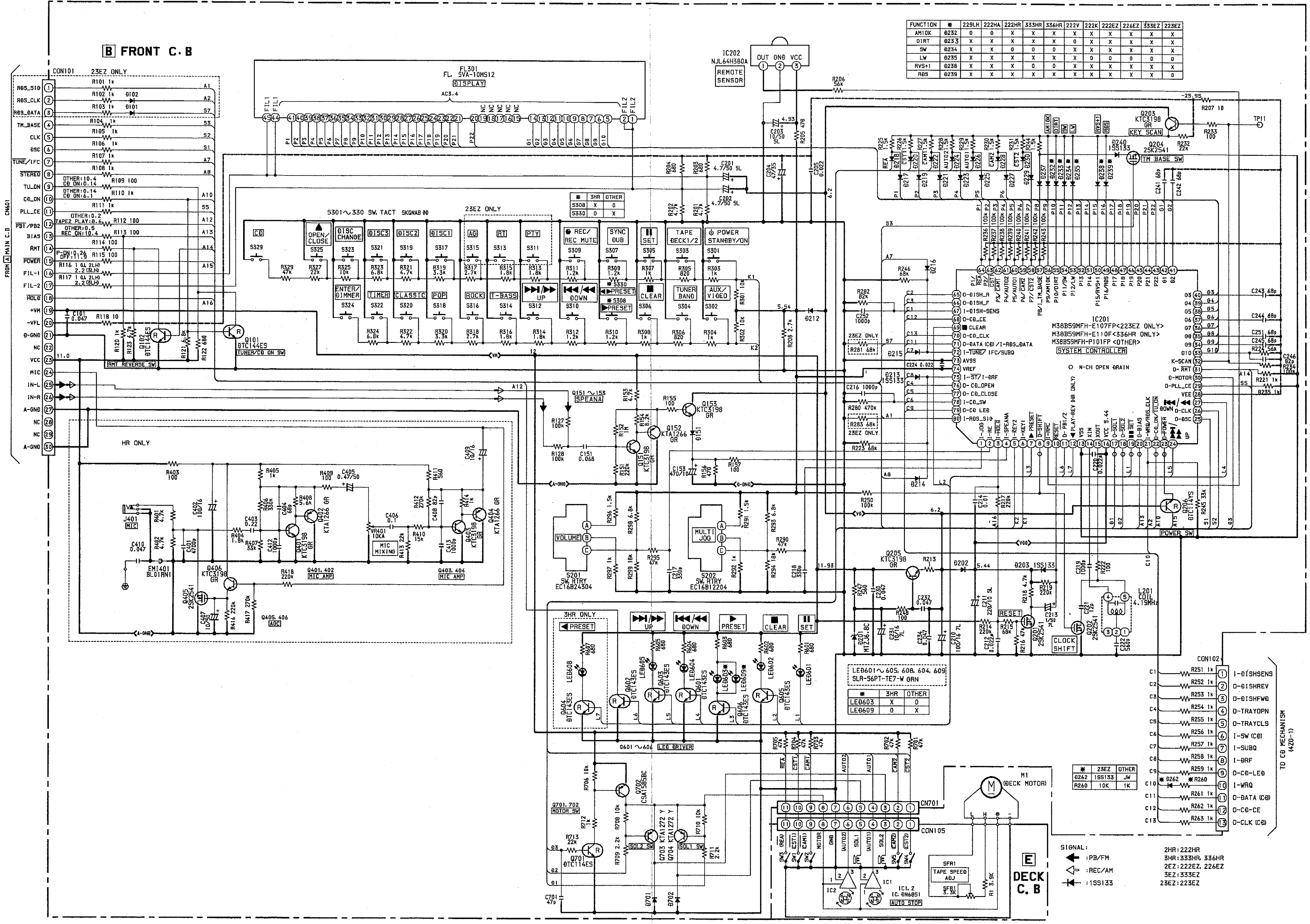
F
G
H
I
J
A MAIN C.B
TO CD MECHANISM (4ZG-1)
FCC3
TO CN602
DECK1
PH
(Lch+)
<WHT>
(–)
<BLK>
<PNK>
(Rch+)
<GRY>
<PNK>
<BLK>
<WHT>
CON301
TO CN301
DECK2
RPH
EH
(RCH+)
<RED>
<WHT>
(RCH–)
(LCH+)
<YEL>
<GRN>
(LCH–)
<WHT>
<BLK>
<GRY>
<BRN>
<GRY>
<BLK>
<WHT>
<RED>
<WHT>
<BLK>
<WHT>
<BLK>
8 7 6 5 4 3 2 1
CON351
TO CN351
J801
ANTENNA
AM LOOP
FM 75Ω
J601
R
VIDEO/AUX
L
FROM D AC2 C.B WH101
W101
MARK
WH102
J202
SPEAKERS
SPEAKER IMP: 6Ω
R
L
+
–
W201
IC751
IC701
IC601
IC401
L981
C901
FFE801
CN602
CN301
CN351
CN601
TO B FRONT C.B CON101
CLP301
LC301
J201
PHONES
RY101
SFR452
SFR451
TP1
TP2
TP3
TP9 (RCH)
GND
TP8 (LCH)
X701
CF801
CF802
FB601
FB603
L801
L802
L201
L771
L772
L855
L701

# SCHEMATIC DIAGRAM – 5 (FRONT)


B FRONT C.B
CON101 23EZ ONLY
FROM A MAIN C.B CN601
RDS_SIG
RDS_CLK
RDS_DATA
TM_BASE
CLK
OSC
TUNE/IFC
STEREO
TU_ON
CD_ON
PLL_CE
PB/PB2
BIAS
RMT
POWER
FIL-1
FIL-2
HOLD
+VM
-VFL
D-GND
VCC
MIC
IN-L
IN-R
A-GND
FL301 FL SVA-10MS12
DISPLAY
IC202 NJL64H380A
REMOTE SENSOR
OUT GND VCC
S301～330 SW. TACT SKQNAB00
23EZ ONLY
CD
OPEN/CLOSE
DISC CHANGE
DISC3
DISC2
DISC1
AG
RT
PTY
REC/REC MUTE
SYNC DUB
SET
TAPE DECK1/2
POWER STANDBY/ON
ENTER/DIMMER
TIMER
CLASSIC
POP
ROCK
T-BASS
UP
DOWN
PRESET
CLEAR
TUNER BAND
AUX/VIDEO
Q101 DTC144ES TUNER/CD ON SW
Q102 DTC144ES RMT REVERSE SW
IC201
M38B59MFH-E107FP<223EZ ONLY>
M38B59MFH-E110FP<336HR ONLY>
M38B59MFH-P101FP<OTHER>
SYSTEM CONTROLLER
N-CH OPEN DRAIN
Q203 KTC3198 GR KEY SCAN
Q204 2SK2541 TM BASE SW
Q216 DTC114YS POWER SW
Q151～153 SPEANA
Q205 KTC3198 GR
Q201 2SK2541 RESET
Q202 2SK2541 CLOCK SHIFT
L201 COIL 4.19MHz
HR ONLY
J401 MIC
EM1401 BL01RN1
Q401, 402 MIC AMP
Q403, 404 MIC AMP
Q405, 406 ABC
VR401 10KA MIC MIXING
VOLUME
S201 SW. RTRY EC16B24304
MULTI JOG
S202 SW. RTRY EC16B12204
3HR ONLY
Q601～606 LED DRIVER
Q701, 702 MOTOR SW
SOL2 SW
SOL1 SW
CN701
CON105
M1 (DECK MOTOR)
SFR1 TAPE SPEED ADJ
IC1, 2 IC, ON6851 AUTO STOP
E DECK C.B
CON102
I-DISHSENS
O-DISHREV
O-DISHFWD
O-TRAYOPN
O-TRAYCLS
I-SW (CD)
I-SUBQ
I-DRF
O-CD-LED
I-WRQ
O-DATA (CD)
O-CD-CE
O-CLK (CD)
TO CD MECHANISM (4ZG-1)

| FUNCTION | ※ | 229LH | 222HA | 222HR | 333HR | 336HR | 222V | 222K | 222EZ | 226EZ | 333EZ | 223EZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM10K | D232 | 0 | 0 | X | X | X | X | X | X | X | X | X |
| DIRT | D233 | X | X | X | X | X | 0 | X | X | X | X | X |
| SW | D234 | X | X | 0 | 0 | 0 | X | X | X | X | X | X |
| LW | D235 | X | X | X | X | X | X | 0 | 0 | 0 | 0 | 0 |
| RVS+1 | D238 | X | X | X | 0 | 0 | X | X | X | X | X | X |
| RDS | D239 | X | X | X | X | X | X | X | X | X | X | 0 |

| ※ | 3HR | OTHER |
|---|---|---|
| S308 | X | 0 |
| S330 | 0 | X |

LED601～605, 608, 604, 609
SLR-56PT-TE7-W GRN

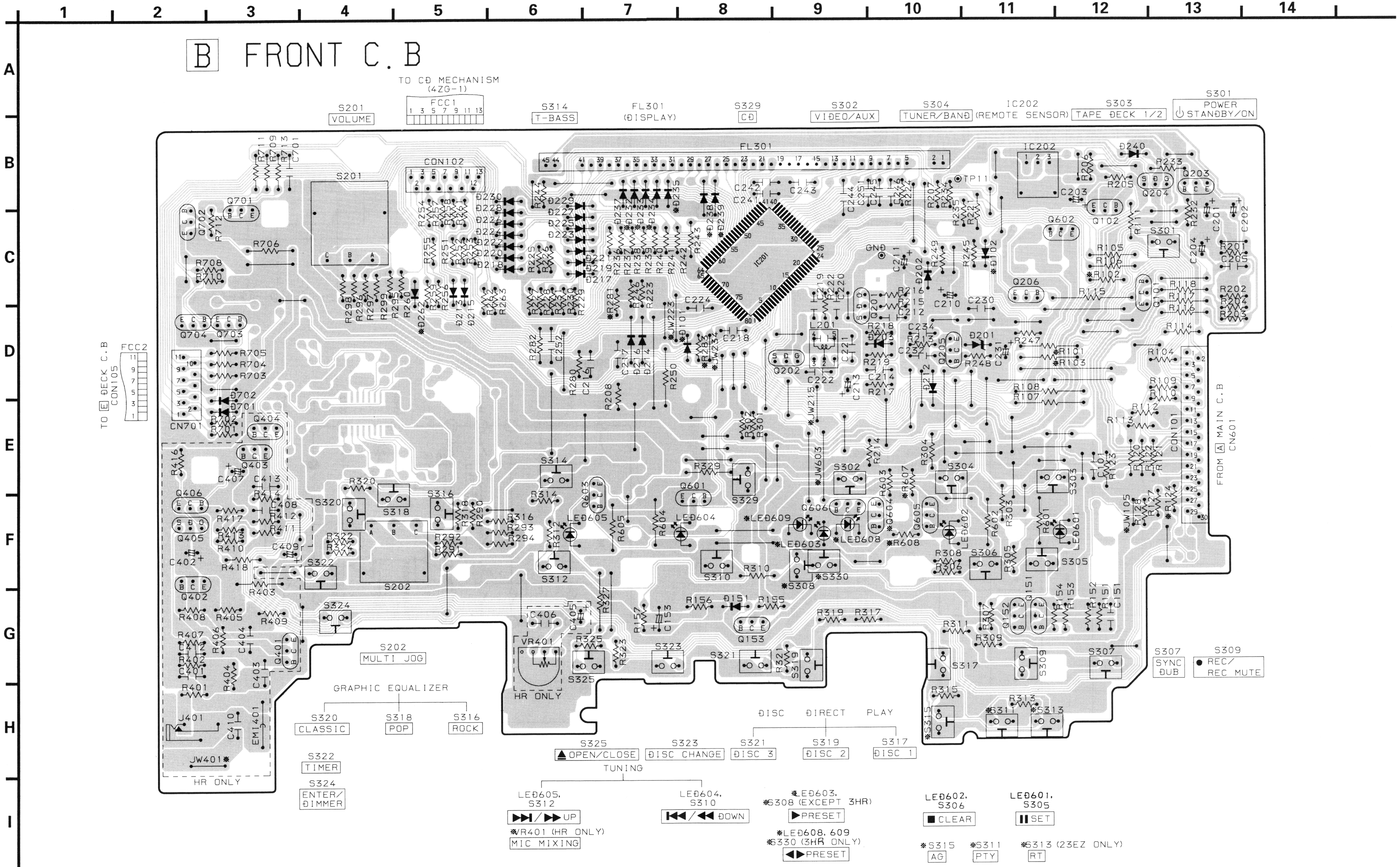
| ※ | 3HR | OTHER |
|---|---|---|
| LED603 | X | 0 |
| LED609 | 0 | X |

| ※ | 23EZ | OTHER |
|---|---|---|
| D262 | 1SS133 | JW |
| R260 | 10K | 1K |

SIGNAL:
◀ :PB/FM
⇦ :REC/AM
:1SS133

2HR:222HR
3HR:333HR, 336HR
2EZ:222EZ, 226EZ
3EZ:333EZ
23EZ:223EZ

# WIRING – 5 (FRONT)


B FRONT C.B
TO CD MECHANISM (4ZG-1)
FCC1
S201 VOLUME
S314 T-BASS
FL301 (DISPLAY)
S329 CD
S302 VIDEO/AUX
S304 TUNER/BAND
IC202 (REMOTE SENSOR)
S303 TAPE DECK 1/2
S301 POWER STANDBY/ON
TO E DECK C.B CON105
FCC2
CN701
FROM A MAIN C.B CN601
CON101
IC201
FL301
HR ONLY
S202 MULTI JOG
GRAPHIC EQUALIZER
S320 CLASSIC
S318 POP
S316 ROCK
S322 TIMER
S324 ENTER/DIMMER
S325 ▲ OPEN/CLOSE
S323 DISC CHANGE
DISC DIRECT PLAY
S321 DISC 3
S319 DISC 2
S317 DISC 1
S307 SYNC DUB
S309 ● REC/REC MUTE
TUNING
LED605, S312 ▶▶|/▶▶ UP
LED604, S310 |◀◀/◀◀ DOWN
※VR401 (HR ONLY) MIC MIXING
※LED603, ※S308 (EXCEPT 3HR) ▶PRESET
※LED608, 609 ※S330 (3HR ONLY) ◀▶PRESET
LED602, S306 ■CLEAR
LED601, S305 ❚❚SET
※S315 AG
※S311 PTY
※S313 (23EZ ONLY) RT
1
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3
4
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6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J

| ※ | LH | HA | 2HR | 3HR | V | K | 2EZ | 3EZ | 23EZ |
|---|---|---|---|---|---|---|---|---|---|
| D101 | X | X | X | X | X | X | X | X | 0 |
| D102 | X | X | X | X | X | X | X | X | 0 |
| D232 | 0 | 0 | X | X | X | X | X | X | X |
| D233 | X | X | X | X | 0 | X | X | X | X |
| D234 | X | X | 0 | 0 | X | X | X | X | X |
| D235 | X | X | X | X | 0 | 0 | 0 | 0 | 0 |
| D238 | X | X | X | 0 | X | X | X | X | X |
| D239 | X | X | X | X | X | X | X | X | 0 |
| D262 | JW | JW | JW | JW | JW | JW | JW | JW | 0 |
| JW105 | X | X | 0 | 0 | X | X | X | X | X |
| JW215 | X | X | X | 0 | X | X | X | X | X |

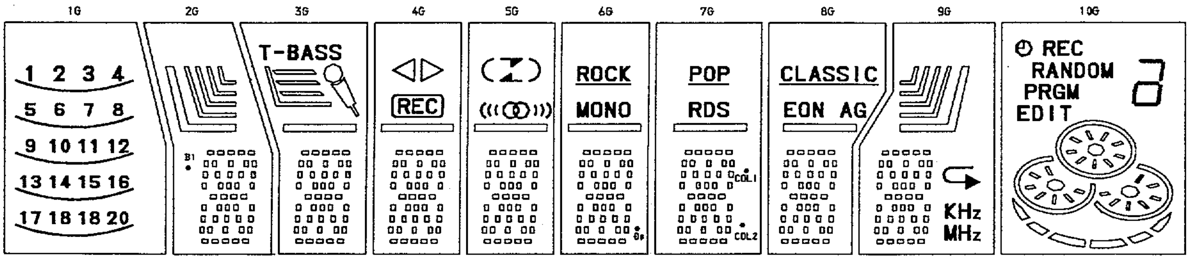
| ※ | LH | HA | 2HR | 3HR | V | K | 2EZ | 3EZ | 23EZ |
|---|---|---|---|---|---|---|---|---|---|
| JW223 | X | X | X | X | X | X | X | X | 0 |
| JW234 | X | X | X | X | X | X | X | X | 0 |
| JW401 | X | X | 0 | 0 | X | X | X | X | X |
| JW603 | X | X | X | 0 | X | X | X | X | X |
| LED608 | X | X | X | 0 | X | X | X | X | X |
| LED609 | X | X | X | 0 | X | X | X | X | X |
| LED603 | 0 | 0 | 0 | X | 0 | 0 | 0 | 0 | 0 |
| Q604 | X | X | X | 0 | X | X | X | X | X |
| R101 | X | X | X | X | X | X | X | X | 0 |
| R102 | X | X | X | X | X | X | X | X | 0 |
| R103 | X | X | X | X | X | X | X | X | 0 |

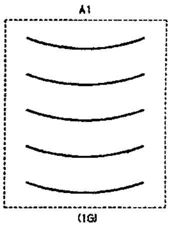
| ※ | LH | HA | 2HR | 3HR | V | K | 2EZ | 3EZ | 23EZ |
|---|---|---|---|---|---|---|---|---|---|
| R124 | X | X | JW | JW | X | X | X | X | 0 |
| R281 | X | X | X | X | X | X | X | X | 0 |
| R283 | X | X | X | X | X | X | X | X | 0 |
| R607 | X | X | X | 0 | X | X | X | X | X |
| R608 | X | X | X | JW | X | X | X | X | X |
| S308 | 0 | 0 | 0 | X | 0 | 0 | 0 | 0 | 0 |
| S311 | X | X | X | X | X | X | X | X | 0 |
| S313 | X | X | X | X | X | X | X | X | 0 |
| S315 | X | X | X | X | X | X | X | X | 0 |
| S330 | X | X | X | 0 | X | X | X | X | X |
| VR401 | X | X | X | 0 | X | X | X | X | X |

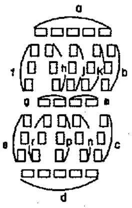
NOTE : 2HR : 222HR
3HR : 333HR : 336HR
2EZ : 222EZ : 226EZ
3EZ : 333EZ
23EZ : 223EZ

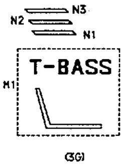
# FL GRID ASSIGNMENT & ANODE CONNECTION

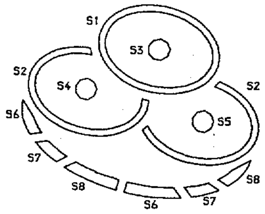
## GRID ASSIGNMENT

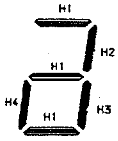

1G
2G
3G
4G
5G
6G
7G
8G
9G
10G
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
17 18 18 20
B1
T-BASS
REC
ROCK
MONO
POP
RDS
COL1
COL2
CLASSIC
EON AG
KHz
MHz
REC
RANDOM
PRGM
EDIT

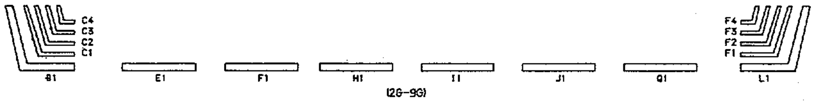


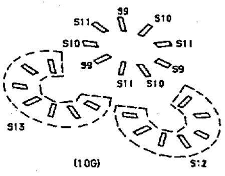

a
f
h
j
k
b
g
e
e
r
p
n
c
m
d


N3
N2
N1
M1
T-BASS
(3G)


S1
S3
S2
S4
S2
S5
S6
S7
S8
S8
S6
S7


H1
H2
H1
H4
H1
H3


C4
C3
C2
C1
B1
E1
F1
H1
(2G-9G)
I1
J1
Q1
F4
F3
F2
F1
L1

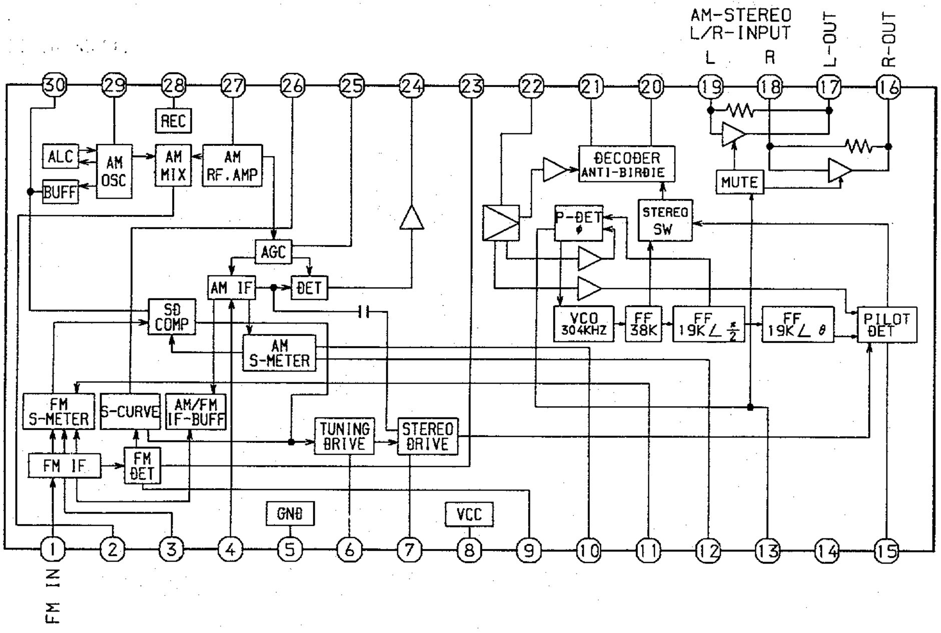

S9
S10
S11
S10
S11
S9
S11
S10
S9
S13
(10G)
S12

## ANODE CONNECTION

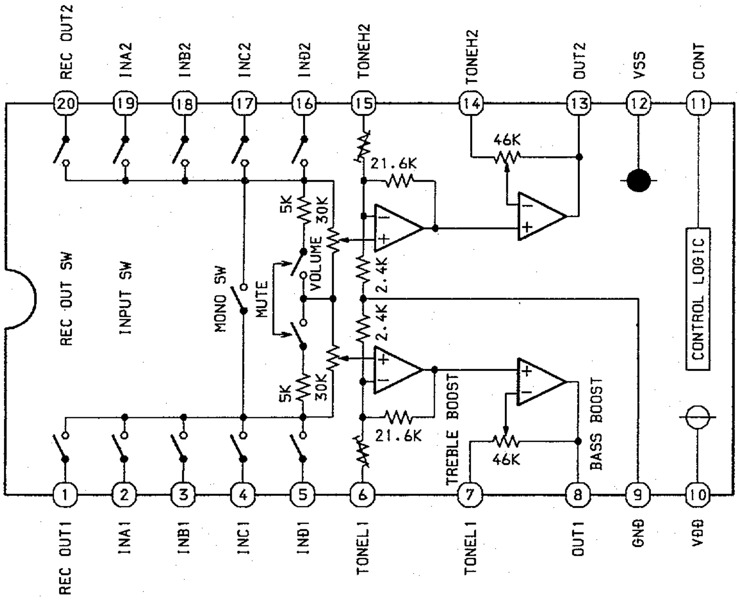
| | 1G | 2G | 3G | 4G | 5G | 6G | 7G | 8G | 9G | 10G |
|---|---|---|---|---|---|---|---|---|---|---|
| P1 | **20** | d | d | d | d | d | d | d | d | S1 |
| P2 | **19** | n | n | n | n | n | n | n | n | S9 |
| P3 | **18** | p | p | p | p | p | p | p | p | S10 |
| P4 | **17** | r | r | r | r | r | r | r | r | S11 |
| P5 | **16** | e | e | e | e | e | e | e | e | S3 |
| P6 | **15** | c | c | c | c | c | c | c | c | S2 |
| P7 | **14** | g | g | g | g | g | g | g | g | S13 |
| P8 | **13** | m | m | m | m | m | m | m | m | S4 |
| P9 | **12** | f | f | f | f | f | f | f | f | S12 |
| P10 | **11** | b | b | b | b | b | b | b | b | S5 |
| P11 | **10** | k | k | k | k | k | k | k | k | S6 |
| P12 | **9** | j | j | j | j | j | j | j | j | S7 |
| P13 | **8** | h | h | h | h | h | h | h | h | S8 |
| P14 | **7** | a | a | a | a | a | a | a | a | **EDIT** |
| P15 | **6** | B1 | E1 | F1 | H1 | Dp | COL2 | Q1 | **MHz** | **PRGM** |
| P16 | **5** | C1 | M1 | **REC** | ((ꝏ)) | I1 | COL1 | **EON** | **KHz** | **RANDOM** |
| P17 | **4** | C2 | N1 | ◁ | ( | **MONO** | J1 | **AG** | ⮑ | **REC** |
| P18 | **3** | C3 | N2 | ▷ | ⇌ | —— | **RDS** | —— | L1 | ◷ |
| P19 | **2** | C4 | N3 | | ) | **ROCK** | —— | **CLASSIC** | F1 | H1 |
| P20 | **1** | B1 | 🎤 | | | | **POP** | | F2 | H2 |
| P21 | A1 | | | | | | | | F3 | H3 |
| P22 | | | | | | | | | F4 | H4 |

# IC BLOCK DIAGRAM

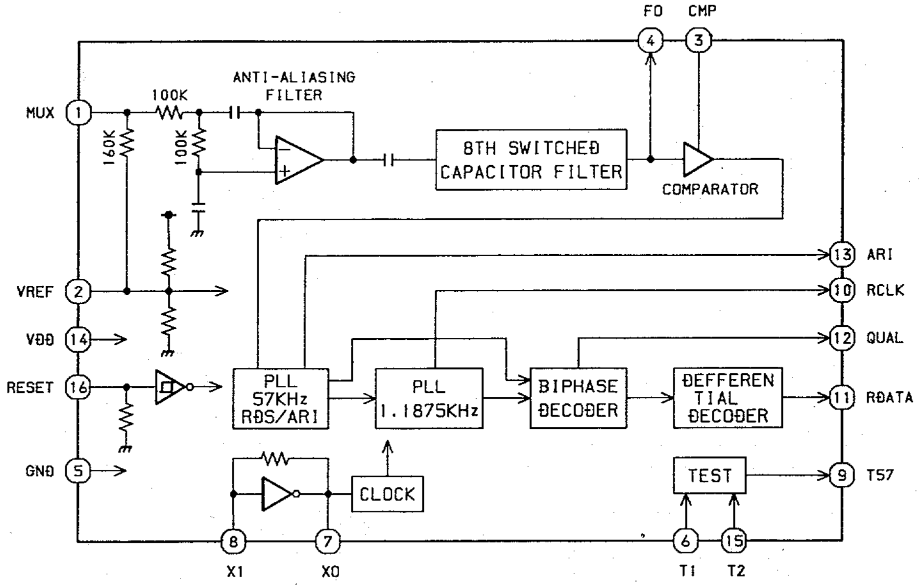
## IC, LA1837NL


AM-STEREO
L/R-INPUT
L
R
L-OUT
R-OUT
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
REC
ALC
AM OSC
AM MIX
AM RF.AMP
BUFF
DECODER ANTI-BIRDIE
MUTE
STEREO SW
P-DET φ
AGC
AM IF
DET
SD COMP
AM S-METER
VCO 304KHZ
FF 38K
FF 19K∠π/2
FF 19K∠θ
PILOT DET
FM S-METER
S-CURVE
AM/FM IF-BUFF
TUNING DRIVE
STEREO DRIVE
FM IF
FM DET
GND
VCC
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
FM IN

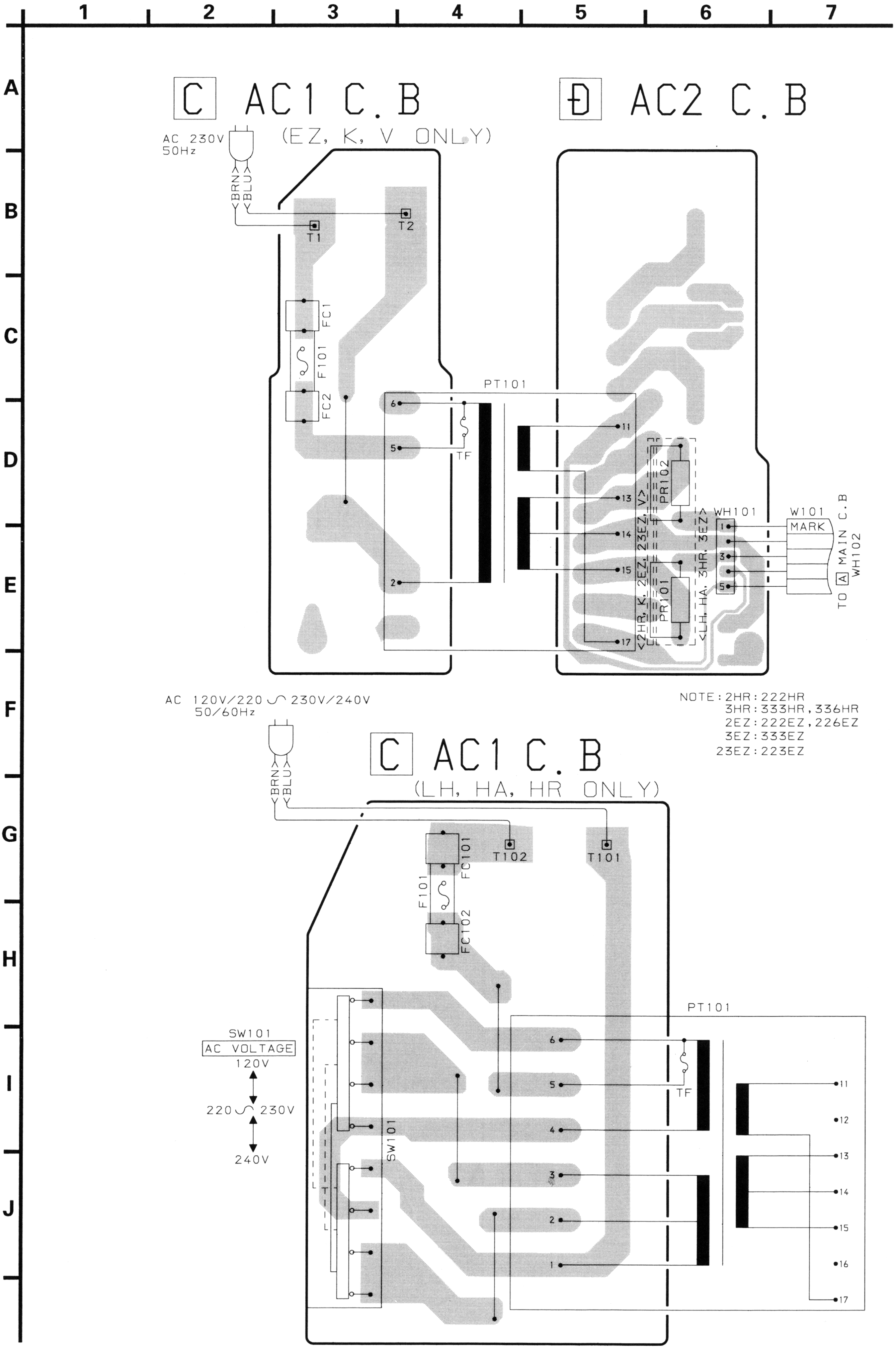
## IC, M62439SP


REC OUT2
INA2
INB2
INC2
IND2
TONEH2
TONEH2
OUT2
VSS
CONT
20
19
18
17
16
15
14
13
12
11
46K
21.6K
5K
30K
VOLUME
2.4K
2.4K
REC OUT SW
INPUT SW
MONO SW
MUTE
CONTROL LOGIC
5K
30K
21.6K
TREBLE BOOST
46K
BASS BOOST
1
2
3
4
5
6
7
8
9
10
REC OUT1
INA1
INB1
INC1
IND1
TONEL1
TONEL1
OUT1
GND
VDD

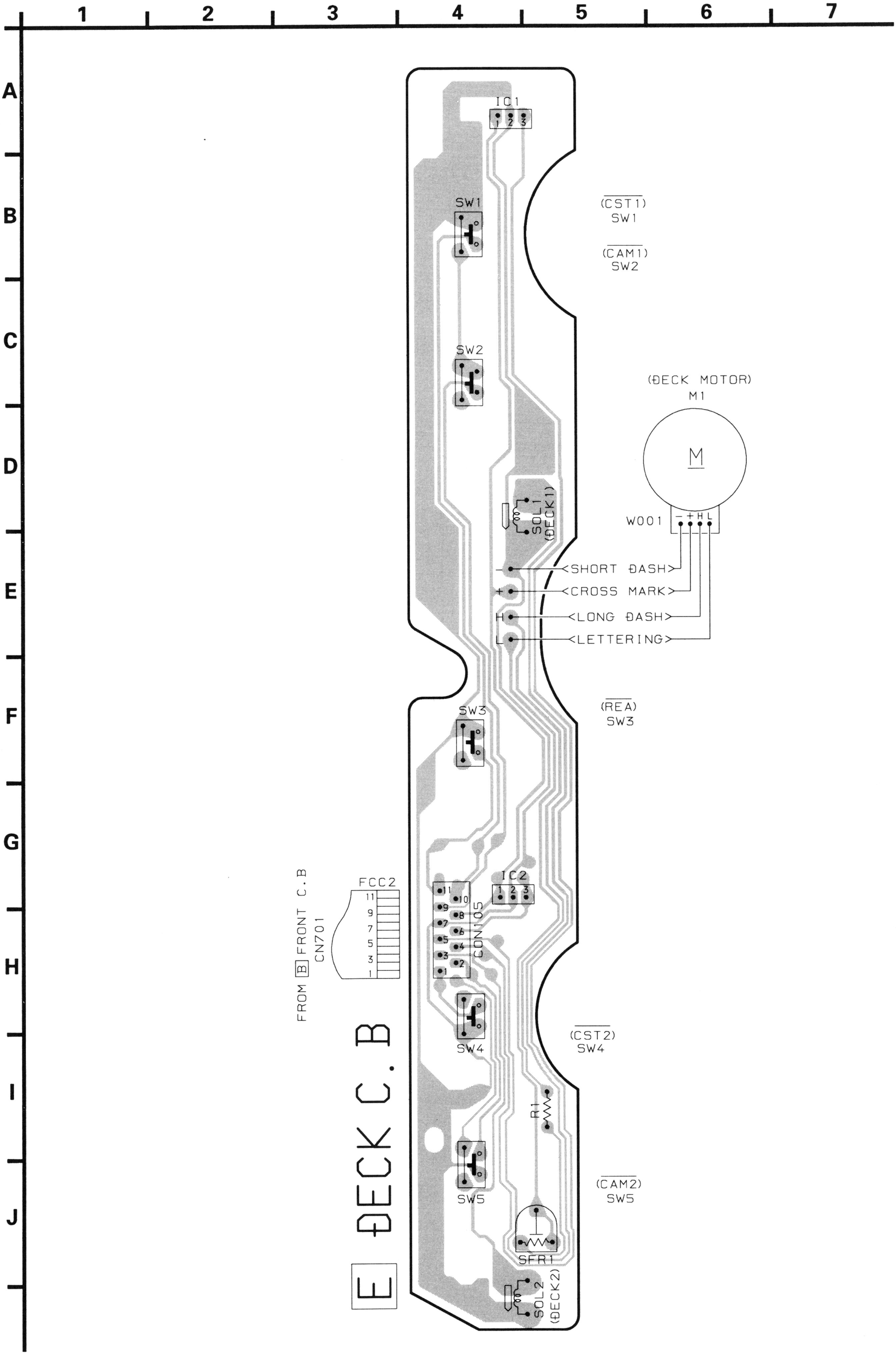
## IC, BU1920FS


FO
CMP
4
3
ANTI-ALIASING FILTER
MUX
1
100K
160K
100K
8TH SWITCHED CAPACITOR FILTER
COMPARATOR
13
ARI
VREF
2
10
RCLK
VDD
14
12
QUAL
RESET
16
PLL 57KHz RDS/ARI
PLL 1.1875KHz
BIPHASE DECODER
DEFFEREN TIAL DECODER
11
RDATA
GND
5
CLOCK
TEST
9
T57
8
7
6
15
X1
XO
T1
T2

# WIRING – 6 (AC)


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
C AC1 C.B
(EZ, K, V ONLY)
D AC2 C.B
AC 230V
50Hz
BRN
BLU
T1
T2
FC1
F101
FC2
PT101
TF
6
5
2
11
13
14
15
17
PR102
PR101
<2HR, K, 2EZ, 23EZ, V>
<LH, HA, 3HR, 3EZ>
WH101
W101
MARK
1
3
5
TO A MAIN C.B
WH102
NOTE: 2HR: 222HR
3HR: 333HR, 336HR
2EZ: 222EZ, 226EZ
3EZ: 333EZ
23EZ: 223EZ
AC 120V/220 ∽ 230V/240V
50/60Hz
BRN
BLU
C AC1 C.B
(LH, HA, HR ONLY)
T102
T101
FC101
F101
FC102
SW101
AC VOLTAGE
120V
220 ∽ 230V
240V
SW101
PT101
TF
6
5
4
3
2
1
11
12
13
14
15
16
17

# WIRING – 7 (DECK)


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
IC1
1 2 3
SW1
(CST1)
SW1
(CAM1)
SW2
SW2
(ĐECK MOTOR)
M1
M
W001
– + H L
SOL1 (ĐECK1)
<SHORT ĐASH>
<CROSS MARK>
<LONG ĐASH>
<LETTERING>
– + H L
(REA)
SW3
SW3
IC2
1 2 3
FCC2
11 9 7 5 3 1
FROM B FRONT C.B CN701
CN105
1 2 3 4 5 6 7 8 9 10 11
SW4
(CST2)
SW4
R1
SW5
(CAM2)
SW5
SFR1
SOL2 (ĐECK2)
E ĐECK C.B

# IC DESCRIPTION

## IC, LC72131D

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>XIN</td><td rowspan="2">I/O</td><td rowspan="2">A crystal oscillator (4.5MHz) is connected between these pins.</td></tr>
<tr><td>22</td><td>XOUT</td></tr>
<tr><td>2</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>3</td><td>CE</td><td>I</td><td>To enable the IC. Active "H".</td></tr>
<tr><td>4</td><td>DI</td><td>I</td><td>Serial data input from CPU (µP M38B59MFH-P101FP) when relevant key is operated. Active "H".</td></tr>
<tr><td>5</td><td>CL</td><td>I</td><td>Synchronization clock for serial data in (DI) or serial data out (DO).</td></tr>
<tr><td>6</td><td>DO</td><td>O</td><td>Serial data output to CPU (µP M38B59MFH).</td></tr>
<tr><td>7</td><td>T-BASE</td><td>O</td><td>Outputs a reference clock signal (8Hz) for the clock.</td></tr>
<tr><td>8</td><td>$\overline{\text{MONO}}$ / BEAT</td><td>O</td><td>Outputs "H" when MONO / BEAT is switched.</td></tr>
<tr><td>9</td><td>$\overline{\text{FM}}$ / $\overline{\text{SW}}$</td><td>O</td><td>Output "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>H</td><td>L</td><td>H</td><td>H</td><td>L</td><td>H</td><td>L</td><td>L</td></tr>
</table></td></tr>
<tr><td>10</td><td>$\overline{\text{MW}}$/SW</td><td>O</td><td>Outputs "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>L</td></tr>
</table></td></tr>
<tr><td>11</td><td>IF-MUTE</td><td>O</td><td>To control internal counter.</td></tr>
<tr><td>12</td><td>IF-IN</td><td>I</td><td>General purpose counter input.</td></tr>
<tr><td>13</td><td>$\overline{\text{TUNE}}$</td><td>I</td><td>Receives "L" when station is tuned.</td></tr>
<tr><td>14</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>15</td><td>AM-IN</td><td>I</td><td>Receives the AM local oscillator frequency signal.</td></tr>
<tr><td>16</td><td>FM-IN</td><td>I</td><td>Receives the FM local oscillator frequency signal.</td></tr>
<tr><td>17</td><td>VDD</td><td>–</td><td>Supply power to IC (+5V).</td></tr>
<tr><td>18</td><td>PD</td><td>O</td><td>PLL charge pump output.</td></tr>
<tr><td>19</td><td>A-IN</td><td>I</td><td rowspan="2">The MOS transistor for PLL active low pass filter.</td></tr>
<tr><td>20</td><td>A-OUT</td><td>O</td></tr>
<tr><td>21</td><td>VSS</td><td>–</td><td>Ground.</td></tr>
</table>

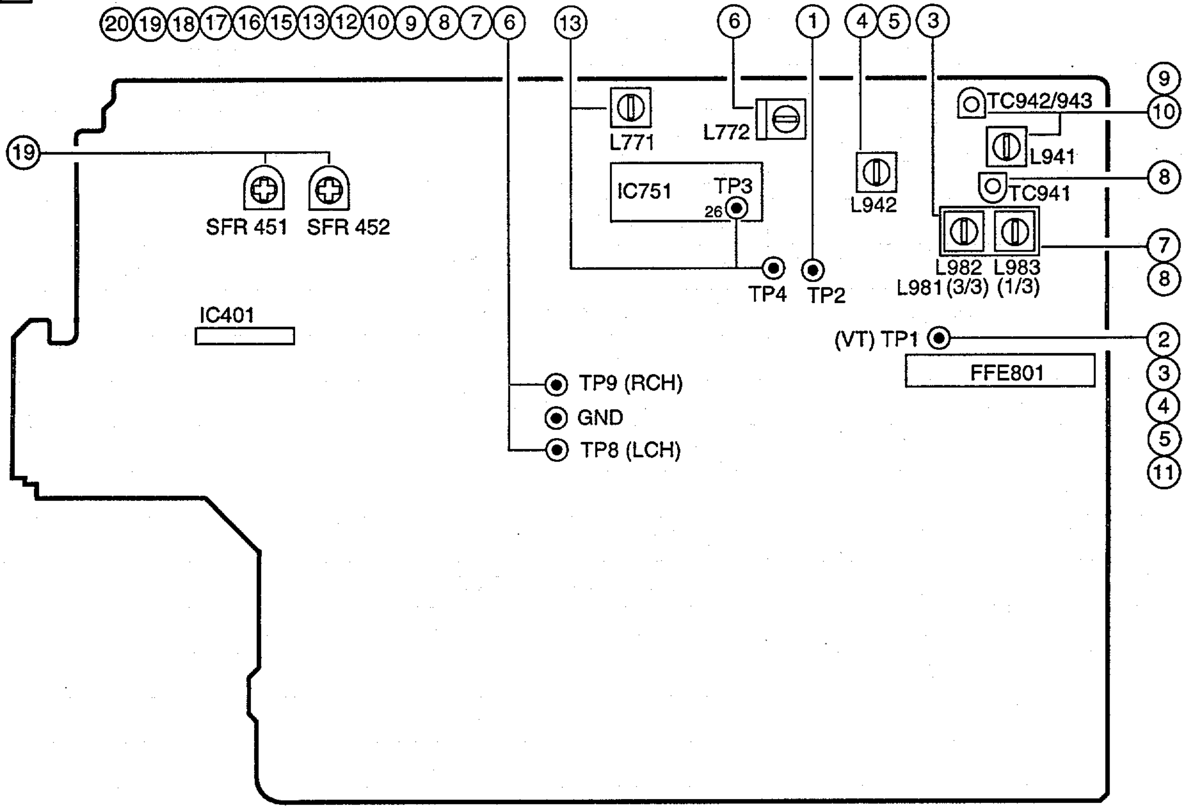
IC, M38B59MFH-E107FP/E110F/9101

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | I-JOG | I | Multi Jog A/D input. |
| 2 | I-RE | I | Volume A/D input. |
| 3 | I-$\overline{\text{HOLD}}$ | I | Power failure detection, "L" to stop clock and main memory. |
| 4 | I-SPEANA | I | A/D iutput for spectrum analyser level display. |
| 5,6 | I-KEY 2,1 | I | KEY 2,1 A/D input. |
| 7 | ►PRESET | O | ►PRESET LED ON/$\overline{\text{OFF}}$ output. |
| 8 | O-$\overline{\text{SHIFT}}$ | O | Microprocessor clock shift output. |
| 9 | I-$\overline{\text{RMC}}$ | I | System remote control input. |
| 10 | I-$\overline{\text{RESET}}$ | I | System reset. |
| 11 | O-$\overline{\text{PB1}}$/PB2 | O | Playback DECK1 and DECK2 switch output. |
| 12 | ◄PLAY-REV | O | ◄ LED ON/$\overline{\text{OFF}}$ output. (HR only) |
| 13 | VSS | - | GND. |
| 14,15 | XIN, XOUT | I/O | 4.19MHz oscillator circuit. |
| 16 | VCC | - | Power supply. |
| 17 | O-$\overline{\text{SOL1}}$ | O | DECK 1 solenoid output. |
| 18 | O-$\overline{\text{SOL2}}$ | O | DECK 2 solenoid output. |
| 19 | $\overline{\text{II SET}}$ | O | II SET LED $\overline{\text{ON}}$/OFF output. |
| 20 | O-BIAS | O | DECK bias ON/$\overline{\text{OFF}}$ output. |
| 21 | I-WRQ/RDS_CLK | I | CD WRQ input / Tuner RDS clock input<223EZ>. |
| 22 | O-CD_ON/$\overline{\text{TU\_ON}}$ | O | CD power ON/$\overline{\text{OFF}}$ output / Tuner power $\overline{\text{ON}}$/OFF output. |
| 23 | O-$\overline{\text{POWER}}$ | O | System power supply $\overline{\text{ON}}$/OFF output. |
| 24 | ►►\|/►►UP | O | ►►\|/►►UP LED ON/$\overline{\text{OFF}}$ output. |
| 25 | O-DSC | O | E-VR / SOUND / FUNCTION IC data output/ PLL shift register data output. |
| 26 | O-CLK | O | CLK for PLL shift register. |
| 27 | \|◄◄/◄◄ DOWN | O | \|◄◄/◄◄ DOWN LED ON/$\overline{\text{OFF}}$ output. |
| 28 | VEE | - | Power supply for FL display. |
| 29 | O-PLL_CE | O | PLL IC chip enable output. |
| 30 | O-MOTOR | O | DECK motor ON/$\overline{\text{OFF}}$ output. |
| 31 | O-$\overline{\text{RMT}}$ | O | DECK2 REC MUTE $\overline{\text{ON}}$/OFF output. |
| 32 | K-SCAN | O | Key scan output. |
| 33~42 | G10~G1 | O | FL grid G10~G1 output. |
| 43~48 | P22~P17 | O | FL segment P22~P17 output. |
| 49 | P16/RDS | O/I | FL segment P16 output / RDS data input<223EZ>. |
| 50 | P15/RVS+1 | O/I | FL segment P15 output / RVS+1 data input<333HR,336HR>. |
| 51 | P14 | O | FL segment P14 output . |
| 52 | P13 | O | FL segment P13 output. |
| 53 | P12/LW | O/I | FL segment P12 output / LW data input<K,EZ>. |
| 54 | P11/SW | O/I | FL segment P11 output / SW data input<HR>. |
| 55 | P10/OIRT | O/I | FL segment P10 output / OIRT data input<V>. |
| 56 | P9/AM10K | O/I | FL segment P9 output / AM10K data input<LH,HA>. |
| 57 | P8/I-TM_BASE | O/I | FL segment P8 output / TM-BASE data input. |
| 58 | P7/$\overline{\text{CST2}}$ | O/I | FL segment P7 output / DECK 2 cassette detect switch data input. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 59 | P6/ $\overline{\text{CAM2}}$ | O/I | FL segment P6 output / DECK2 CAM switch data input. |
| 60 | P5/AUTO1 | O/I | FL segment P5 output / DECK1 AUTO stop switch data input. |
| 61 | P4/AUTO2 | O/I | FL segment P4 output / DECK2 AUTO stop switch data input. |
| 62 | P3/$\overline{\text{CAM1}}$ | O/I | FL segment P3 output / DECK1 CAM stop switch data input. |
| 63 | P2/$\overline{\text{CST1}}$ | O/I | FL segment P2 output / DECK1 cassette detect switch data input. |
| 64 | P1/$\overline{\text{REA}}$ | O/I | FL segment P1 output / DECK2 side A record OK switch data input. |
| 65 | O-DISH_R | O | CD turntable reverse rotation output. |
| 66 | O-DISH_F | O | CD turntable forward rotation output. |
| 67 | I-DISH_ SENS | I | CD turntable photo sensor input. |
| 68 | O-CD_CE | O | CD enable output. |
| 69 | ■CLEAR | O | ■CLEAR LED ON/$\overline{\text{OFF}}$ output. |
| 70 | O-CD_CLK | O | CD clock output. |
| 71 | O-CD/I-RDS_DATA | O/I | CD data output / Tuner RDS data input<223EZ>. |
| 72 | I-$\overline{\text{TUNE}}$/IFC/SUBQ | I | Tuner TUNE input / Tuner IF count serial data input / CD SUBQ data input. |
| 73 | AVSS | - | GND. |
| 74 | VREF | - | Power supply. |
| 75 | I-$\overline{\text{ST}}$/I-DRF | I | Tuner STEREO input / CD DRF input. |
| 76 | O-CD_OPEN | O | CD tray open data output. |
| 77 | O-CD_CLOSE | O | CD tray close data output. |
| 78 | I-CD_SW | I | CD mecha switch input. |
| 79 | O-CD_LED | O | CD flash window LED output. |
| 80 | I-RDS_SIG | I | Tuner RDS signal input<223EZ>. |

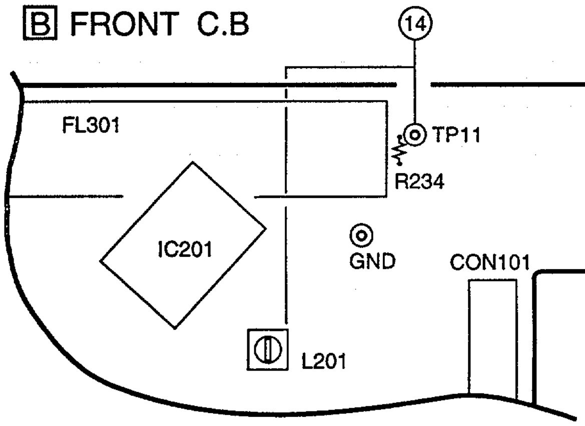
# ADJUSTMENT <TUNER / DECK>

A MAIN C.B



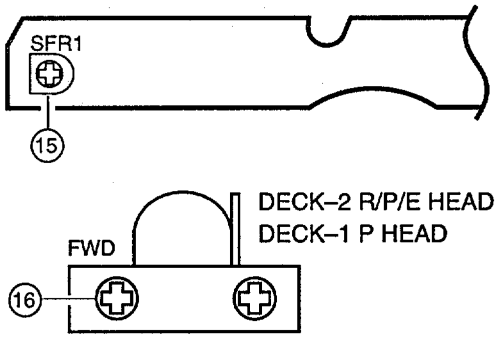
⑳⑲⑱⑰⑯⑮⑬⑫⑩⑨⑧⑦⑥
⑬
⑥
①
④⑤③
⑨
⑩
⑧
⑦
⑧
②
③
④
⑤
⑪
⑲
SFR 451
SFR 452
IC401
L771
L772
IC751
TP3
26
TP4
TP2
L942
TC942/943
L941
TC941
L982
L983
L981(3/3) (1/3)
(VT) TP1
FFE801
TP9 (RCH)
GND
TP8 (LCH)

B FRONT C.B



⑭
FL301
TP11
R234
IC201
GND
CON101
L201

E DECK C.B



SFR1
⑮
DECK–2 R/P/E HEAD
DECK–1 P HEAD
FWD
⑯

## < TUNER SECTION >

1. Clock Frequency Check
   Settings : • Test point : TP2
   Method : <HA,LH>
   Set to AM 1710kHz and check that the test point is 2160kHz ± 45Hz.
   <HR,K,V,EZ>
   Set to AM 1602kHz and check that the test point is 2052kHz ± 45Hz.

2. AM/MW VT Check
   Settings : • Test point : TP1
   Method : <HA,LH>
   Set to AM 1710kHz and AM 530kHz and check that the test point is less than 8.5V(1710kHz) and more than 0.6V(530kHz).
   <K,V,EZ>
   Set to AM 1602kHz and AM 531kHz and check that the test point is less than 8.0V(1602kHz) and more than 0.6V(531kHz).

3. MW VT Adjustment <HR>
   Settings : • Test point : TP1 (VT)
   • Adjustment location : L982
   Method : Set to MW 1710kHz and adjust L982 so that the test point becomes 8.0V ± 0.05V. Then check that the test point is more than 0.3V (530kHz).

4. SW VT Adjustment <HR>
   Settings : • Test point : TP1 (VT)
   • Adjustment location : L942
   Method : Set to SW 17.9MHz and adjust L942 so that the test point becomes 6.0V ± 0.05V. Then check that the test point is more than 0.3V (5.9MHz).

5. LW VT Adjustment <EZ,K>
Settings : • Test point : TP1 (VT)
• Adjustment location : L942
Method : Set to LW 144kHz and adjust L942 so that the test point is 1.3V ± 0.05V. Then check that the test point is less than 8.0V (290kHz).

6. AM /MW IF Adjustment
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location : L772 ........... 999/1000kHz
Method : The output level at 999/1000kHz is adjusted to maximum by L772.

7. AM/MW Tracking Adjustment <HA,LH,K,V,EZ>
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location : L981(1/3) .... 999/1000kHz
Method : The output level at 999/1000kHz is adjusted to maximum by L981(1/3).

8. MW Tracking Adjustment <HR>
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location : L983 ..................... 603kHz
TC941 ................ 1404kHz
Method : Set up TC941 to center before adjustment. The output level at 603kHz is adjusted to maximum by L983. Then the output level at 1404kHz is adjusted to maximum by TC941.

9. LW Tracking Adjustment <EZ,K>
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location : L941 ..................... 144kHz
TC942 ................. 290kHz
Method : Set up TC942 to center before adjustment. The output level at 144kHz is adjusted to maximum by L941. Then the level at 290kHz is adjusted to maximum by TC942.

10. SW Tracking Adjustment <HR>
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location : L941 ..................... 5.9MHz
TC943 ................ 17.9MHz
Method : Set up TC943 to center before adjustment. The output level at 5.9MHz is adjusted to maximum by L941. Then the output level at 17.9 MHz is adjusted to maximum by TC943.

11. FM VT Check
Settings : • Test point : TP1
Method : <HA,LH,K,EZ>
Set to FM 108.0MHz and check that the test point is less than 8.0V. Set to FM 87.5MHz and check that the test point is more than 0.5V.
<V>
Set to FM 108.0MHz and check that the test point is less than 9.5V. Set to FM 87.5MHz and check that the test point is more than 1.0V.

12. FM Tracking Check
Settings : • Test point : TP8(Lch), TP9(Rch)
Method : Set to FM 98.0MHz and check that the test point is less than 9.0dBμV<HA,LH,HR>/13.0dBμV<K,EZ>/ 8.0dBμV<V>.

13. DC Balance / Mono Distortion Adjustment
Settings : • Test point : TP3,TP4 / TP8,TP9
• Adjustment location : L771 .................. 98.0MHz
• Input level : 60 dBμV
Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V ±0.04V. Next, check that the distortion is less than 1.3%.

14. μ-con OSC Adjustment
Settings : • Test point : TP11
• Adjustment location : L201
Method : Insert AC plug with pressing TUNER function key. Adjust L201 so that the frequency across the test point is 233.74 ~ 234.20Hz.

## < DECK SECTION >

15. Tape Speed Adjustment
Settings : • Test tape : TTA–100
• Test point : TP8,TP9
• Adjustment location : SFR1
Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz.

16. Head Azimuth Adjustment (DECK 1, DECK 2)
Settings : • Test tape : TTA–330
• Test point : TP8,TP9
• Adjustment location : Azimuth adjustment screw
Method : Play back the 8kHz signal of the test tape and adjust screw so that the output becomes maximum. Perform on FWD PLAY and REV PLAY mode.

17. PB Frequency Response Check (DECK 1, DECK 2)
Settings : • Test tape : TTA–330
• Test point : TP8,TP9
Method : Play back the 315Hz and 8kHz signals of the test tape and check that the output ratio of the 8kHz signal with respect to that of the 315Hz signal is within 5.0dB.

18. PB Sensitivity Check (DECK 1, DECK 2)
Settings : • Test tape : TTA–200
• Test point : TP8,TP9
Method : Play back the test tape and check the signal level of the test point is 110mV ± 3.0dB.

19. REC/PB Frequency Response Adjustment
Settings : • Test tape : TTA–602
• Test point : TP8,TP9
• Input signal : 1kHz / 8kHz, -26dBV (LINE IN)
• Adjustment location : SFR451(LCH)
SFR452(RCH)
Method : Apply 1kHz signal and REC mode.Then adjust OSC attenuator so that the output level at the TP8,TP9 becomes 7.5~9.5mV. Record and play back the 1kHz and 8kHz signals and adjust SFRs so that the output of the 8kHz signal becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

20. REC/PB Sensitivity Check
Settings : • Test tape : TTA–602
• Test point : TP8,TP9
• Input signal : 1kHz, -6dBV (LINE IN)
Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8,TP9 becomes 75~95mV. Record and play back the 1kHz signals and check that the output is -1.0dB ± 3.5dB.

# PRACTICAL SERVICE FIGURE

## <TUNER SECTION>

### <FM SECTION>

IHF Sensitivity : HA,LH,HR :
(THD 3%) Less than 10dBμV[at 87.5MHz]
Less than 9dB[at 98.0/108.0MHz]
V :
Less than 12dB[at 70.0MHz]
Less than 8.0dB[at 87.5/98.0/108.0MHz]
K,EZ :
Less than 14dBμV[at 87.5MHz]
Less than 13dB[at 98.0/108.0MHz]
S/N 50dB Quieting sensitivity :
(Stereo) HA,LH,HR,V :
Less than 35dB[at 98.0MHz]
K,EZ :
Less than 38dB[at 98.0MHz]
Signal to noise ratio : More than 68dB (mono)[at 98.0MHz ]
More than 66dB (stereo)[at 98.0MHz ]
Distortion : Less than 1.2% (mono)[at 98.0MHz ]
Less than 2.0% (stereo)[at 98.0MHz ]
Stereo separation : HA,LH,HR,V :
More than 25dB[at 98.0MHz ]
K,EZ :
More than 25dB[at 98.0MHz ]

### <AM/MW SECTION>

Sensitivity : Less than 60dBμV [at 600/603kHz ]
(S/N 20 dB) Less than 58dBμV
[at 999/1000/1400/1404kHz]
Signal to noise ratio : More than 36dB(mono)[at 999/1000kHz]
Distortion : Less than 1.5% (mono)[at 999/1000kHz]

### <SW SECTION> (HR)

Sensitivity : Less than 55dBμV [at 5.9MHz]
Less than 49dBμV [at 12.0 MHz]
Less than 42dBμV [at 17.9MHz]
Distortion : Less than 10% [at 12.0MHz]

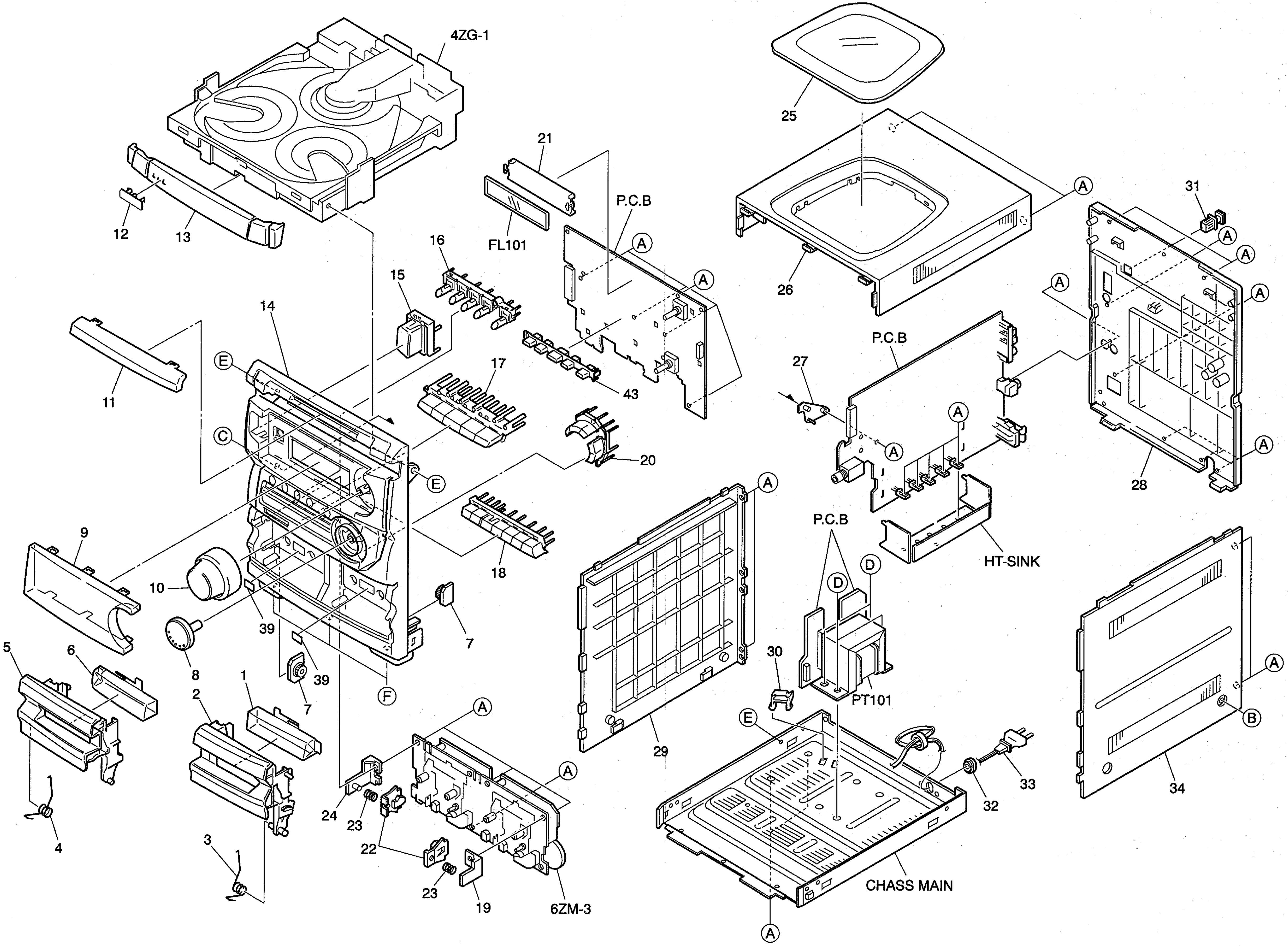
### <LW SECTION> (K,EZ)

Sensitivity : Less than 70dB [at 144kHz]
Less than 66dB [at 198kHz]
Less than 66dB [at 290kHz]

## <DECK SECTION>

Tape speed : 3000Hz ± 45Hz(TTA–100)
Wow & flutter : Less than 0.25% (R.M.S)
Take-up torque : 30 ~ 55g/cm (FWD, REV)
F.F torque : 75 ~ 180g/cm
REW torque : 75 ~ 130g/cm
Back tension : 2 ~ 7g/cm
PB Output level : 3.0V ± 3dB
Distortion (REC/PB) : Less than 2.0% (TTA–602)
Noise level (PB) : Less than 20mV (TTA–602)
Noise level (REC/PB) : Less than 30mV(TTA–602)

# MECHANICAL EXPLODED VIEW 1 / 1



4ZG-1
12
13
25
21
FL101
P.C.B
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P.C.B
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P.C.B
HT-SINK
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Ⓓ
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PT101
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Ⓐ
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6ZM-3
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34
CHASS MAIN
Ⓐ

# MECHANICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

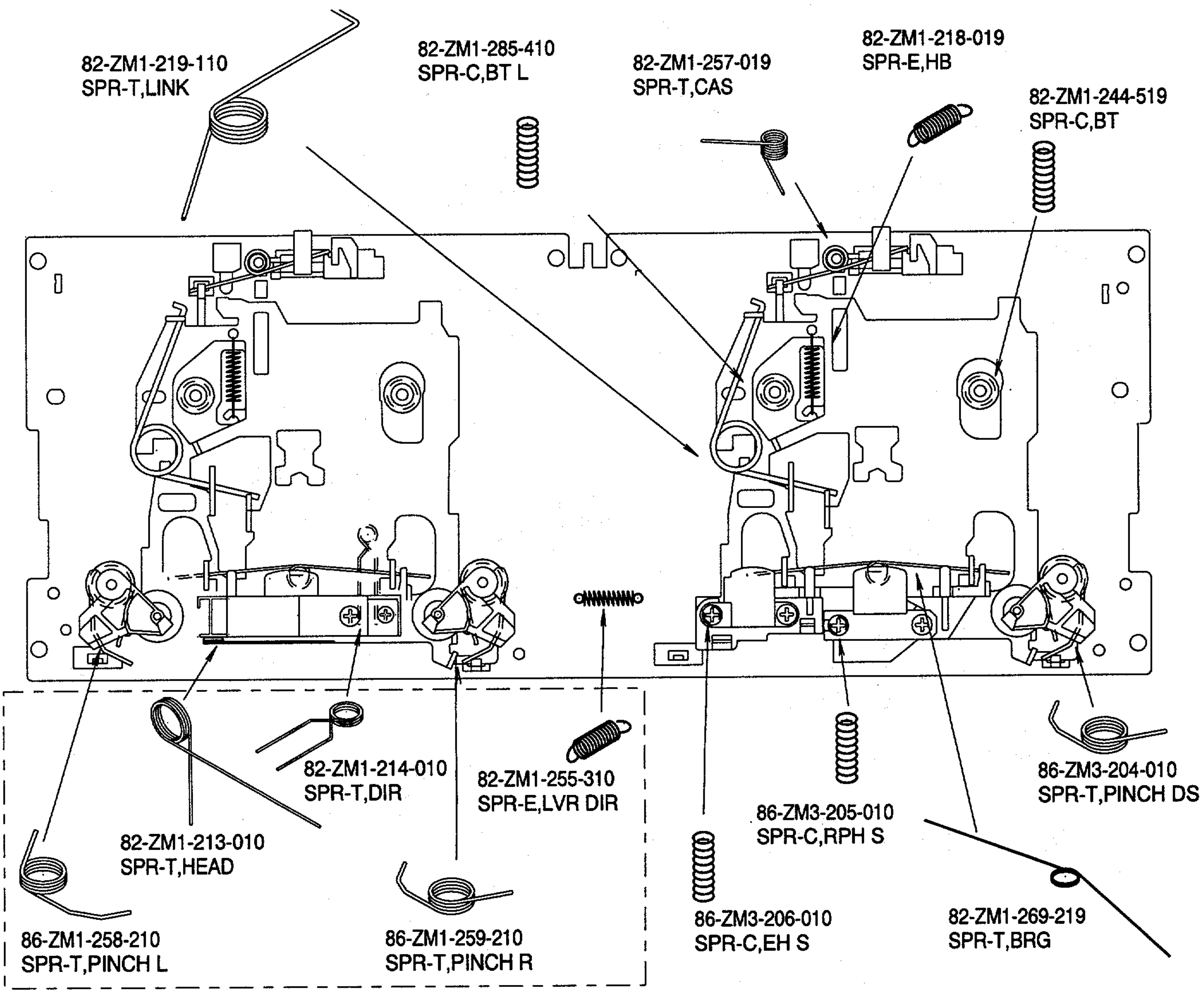
| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 8Z-NF9-008-010 | | WINDOW,CASS 2 |
| 2 | 8Z-NF9-004-010 | | BOX,CASS 2<exp 26EZ> |
| 2 | 8Z-NF9-054-010 | | BOX,CASS 2 B< 26EZ> |
| 3 | 82-NF5-219-010 | | SPR-T,EJECT 2 (SIN) |
| 4 | 82-NF5-218-010 | | SPR-T,EJECT 1 (SIN) |
| 5 | 8Z-NF9-003-010 | | BOX,CASS 1 1WAY<exp 26EZ,33/36HR> |
| 5 | 8Z-NF9-053-010 | | BOX,CASS 1 1WAY B<26EZ> |
| 5 | 8Z-NF9-032-010 | | BOX,CASS 1R<33/36HR> |
| 6 | 8Z-NF9-007-010 | | WINDOW,CASS 1 |
| 7 | 87-NF8-220-010 | | DMPR,150 |
| 8 | 8Z-NF9-010-010 | | KNOB,RTRY JOG<exp 26EZ> |
| 8 | 8Z-NF9-057-010 | | KNOB,RTRY JOG B<26EZ> |
| 9 | 8Z-NF9-037-010 | | WINDOW,DISP EZ<K,2EZ,V> |
| 9 | 8Z-NF9-048-010 | | WINDOW,DISP EZ S223<23EZ> |
| 9 | 8Z-NF9-049-010 | | WINDOW,DISP EZ S226<26EZ> |
| 9 | 8Z-NF9-055-010 | | WINDOW,DISP EZ S333<3EZ> |
| 9 | 8Z-NF9-006-010 | | WINDOW,DISP H<22HR,HA> |
| 9 | 8Z-NF9-063-010 | | WINDOW,DISP H S229<LH> |
| 9 | 8Z-NF9-062-010 | | WINDOW,DISP H S333<LH,33HR> |
| 9 | 8Z-NF9-050-010 | | WINDOW,DISP H S336<36HR> |
| 10 | 8Z-NF9-009-010 | | KNOB,RTRY VOL<exp 26EZ> |
| 10 | 8Z-NF9-056-010 | | KNOB,RTRY VOL B<26EZ> |
| 11 | 8Z-NF9-005-010 | | WINDOW,CD |
| 12 | 82-NE6-067-010 | | BADGE,AIWA 30N |
| 13 | 8Z-NF9-052-010 | | PANEL,TRAY EZ B<26EZ> |
| 13 | 8Z-NF9-002-010 | | PANEL,TRAY H<exp 26EZ> |
| 14 | 8Z-NF9-036-010 | | CABI,FR EZ<23EZ> |
| 14 | 8Z-NF9-051-010 | | CABI,FR EZ B<26EZ> |
| 14 | 8Z-NF9-001-010 | | CABI,FR H<22HR,33HR> |
| 14 | 8Z-NF9-064-010 | | CABI,FR H S333<36HR> |
| 14 | 8Z-NF9-031-010 | | CABI,FR U<LH,K,HA,LH,V,2/3EZ> |
| 15 | 8Z-NF9-011-010 | | KEY,POWER |
| 16 | 8Z-NF9-012-010 | | KEY,FUN<exp 26EZ> |
| 16 | 8Z-NF9-058-010 | | KEY,FUN B<26EZ> |
| 17 | 8Z-NF9-013-010 | | KEY,ASSY OPE 1W<exp 26EZ,33/36HR> |
| 17 | 8Z-NF9-059-010 | | KEY,ASSY OPE 1W B<26EZ> |
| 17 | 8Z-NF9-033-010 | | KEY,ASSY OPE R<33/336HR> |
| 18 | 8Z-NF9-016-010 | | KEY,CD<exp 26EZ> |
| 18 | 8Z-NF9-061-010 | | KEY,CD B<26EZ> |
| 19 | 8Z-NF9-018-010 | | KEY,RDS<23EZ> |
| 20 | 8Z-NF9-017-010 | | KEY,GEQ |
| 21 | 82-NF7-210-110 | | GUIDE,FL (*) |
| 22 | 82-NF5-229-010 | | PLATE,LOCK |
| 23 | 86-NF9-224-010 | | SPR-C,LOCK |
| 24 | 87-NF4-216-010 | | HLDR,LOCK 1 |
| 25 | 86-NFZ-001-010 | | WINDOW,TOP |
| 26 | 8Z-NF9-042-010 | | PANEL,TOP V-2<exp 26EZ,36HR> |
| 26 | 8Z-NF9-045-010 | | PANEL,TOP V-2 B<26EZ> |
| 26 | 8Z-NF9-095-010 | | PANEL,TOP V-2 R<36HR> |
| 27 | 88-NF5-208-010 | | HLDR,PWB-M N |
| 28 | 8Z-NF9-205-010 | | HLDR,PWB MAIN<22HR,K,EZ,V> |
| 29 | 8Z-NB8-011-110 | | PANEL,LEFT V-2<exp 26EZ> |
| 29 | 8Z-NF9-046-010 | | PANEL,LEFT V-2 B<26EZ> |
| 30 | 87-NF4-221-010 | | HLDR,CABLE< K,22EZ> |
| 31 | 87-003-317-010 | | F-BEAD,F0H2515-LG7<K,EZ,V> |
| 32 | 87-085-185-010 | | BUSHING, AC CORD (E) |
| ⚠ 33 | 87-A80-105-010 | | AC CORD ASSY,AZ<HA> |
| ⚠ 33 | 87-050-034-010 | | AC CORD ASSY,E<K,EZ> |
| ⚠ 33 | 87-050-079-010 | | AC-CORD ASSY,E<exp K,EZ,HA> |
| 34 | 8Z-NF9-043-010 | | PANEL,RIGHT S V-2<exp 26EZ> |
| 34 | 8Z-NF9-047-010 | | PANEL,RIGHT S V-2 B<26EZ> |
| 35 | 84-ZG1-245-210 | | CAP,OPTICAL |
| 36 | 8Z-NF9-079-010 | | CABI,REAR EZBM S226<26EZ> |
| 36 | 8Z-NF9-069-010 | | CABI,REAR EZSTE<22EZ> |
| 36 | 8Z-NF9-029-010 | | CABI,REAR EZSTE S333<3EZ> |
| 36 | 8Z-NF9-074-010 | | CABI,REAR EZSTM S223<23EZ> |
| 36 | 8Z-NF9-023-010 | | CABI,REAR HRJSTM<22HR> |
| 36 | 8Z-NF9-030-010 | | CABI,REAR HRJSTM S333<33HR> |
| 36 | 8Z-NF9-088-010 | | CABI,REAR HRJSTM S336<36HR> |
| 36 | 8Z-NF9-070-010 | | CABI,REAR KSTE<22K> |
| 36 | 8Z-NF9-075-010 | | CABI,REAR LHJSCM S229<HA,LH> |
| 36 | 8Z-NF9-026-010 | | CABI,REAR VJSTM<V> |
| 38 | 8Z-NB8-240-010 | | COVER, PL |
| 39 | 81-532-080-010 | | LABEL, CASS. COMPT<26EZ> |
| 40 | 88-NF9-056-010 | | KNOB,RTRY MIC<HR> |
| 41 | 8Z-NF9-204-010 | | PLATE,MIC<HR> |
| 42 | 8Z-NF9-209-010 | | HLDR,RDS<K,EZ> |
| 43 | 8Z-NF9-201-010 | | GUIDE,OPE 1W<22HR,23/26EZ,HA,LH,V> |
| 43 | 8Z-NF9-202-010 | | GUIDE,OPE R<33/36HR> |
| A | 87-067-703-010 | | TAPPING SCREW, BVT2+3-10 |
| B | 87-067-689-010 | | TAPPING SCREW, BVTT+3-8 |
| C | 87-721-096-410 | | QT2+3-10 GLD<exp 33LH> |
| D | 87-067-975-010 | | S-SCREW,IT+4-8 |
| E | 87-721-097-410 | | QT2+3-12 GLD |
| F | 87-067-641-010 | | UTT2+3-8(W/O SLOT)BL |
| G | 87-NF4-224-010 | | S-SCW,IT3B+3-8<HA,LH,33/36HR,3EZ> |
| H | 87-067-758-010 | | BVT2+3-12 W/O SLOT<23EZ> |

***NOTE: 2EZ=222EZ 2HR=222HR**
**3EZ=333EZ 33HR=333HR**
**23EZ=223EZ 36HR=336HR**
**26EZ=226EZ exp=EXCEPT**

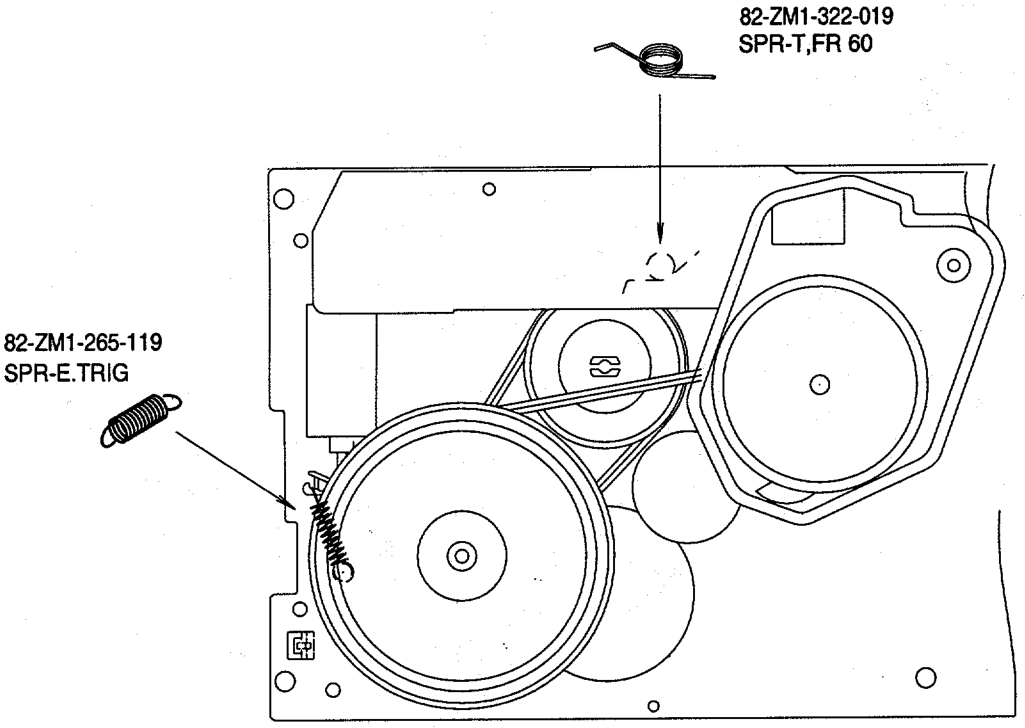
# COLOR NAME TABLE

| Basic color symbol | Color | Basic color symbol | Color | Basic color symbol | Color |
|---|---|---|---|---|---|
| B | Black | C | Cream | D | Orange |
| G | Green | H | Gray | L | Blue |
| LT | Transparent Blue | N | Gold | P | Pink |
| R | Red | S | Silver | ST | Titan Silver |
| T | Brown | V | Violet | W | White |
| WT | Transparent White | Y | Yellow | YT | Transparent Yellow |
| LM | Metallic Blue | LL | Light Blue | GT | Transparent Green |
| LD | Dark Blue | DT | Transparent Orange | | |

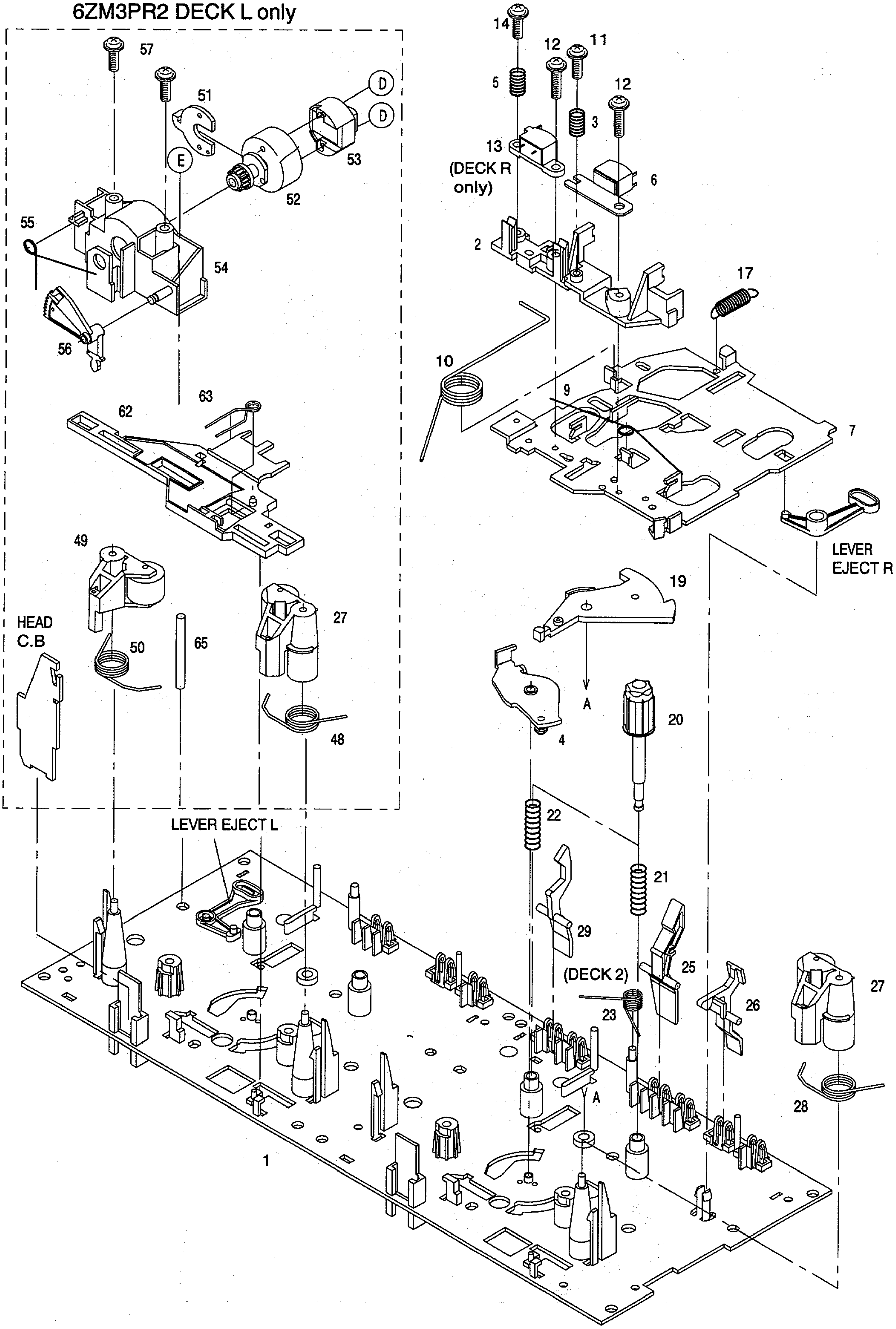
# SPRING APPLICATION POSITION (6ZM3PR1, 6ZM3PR2)

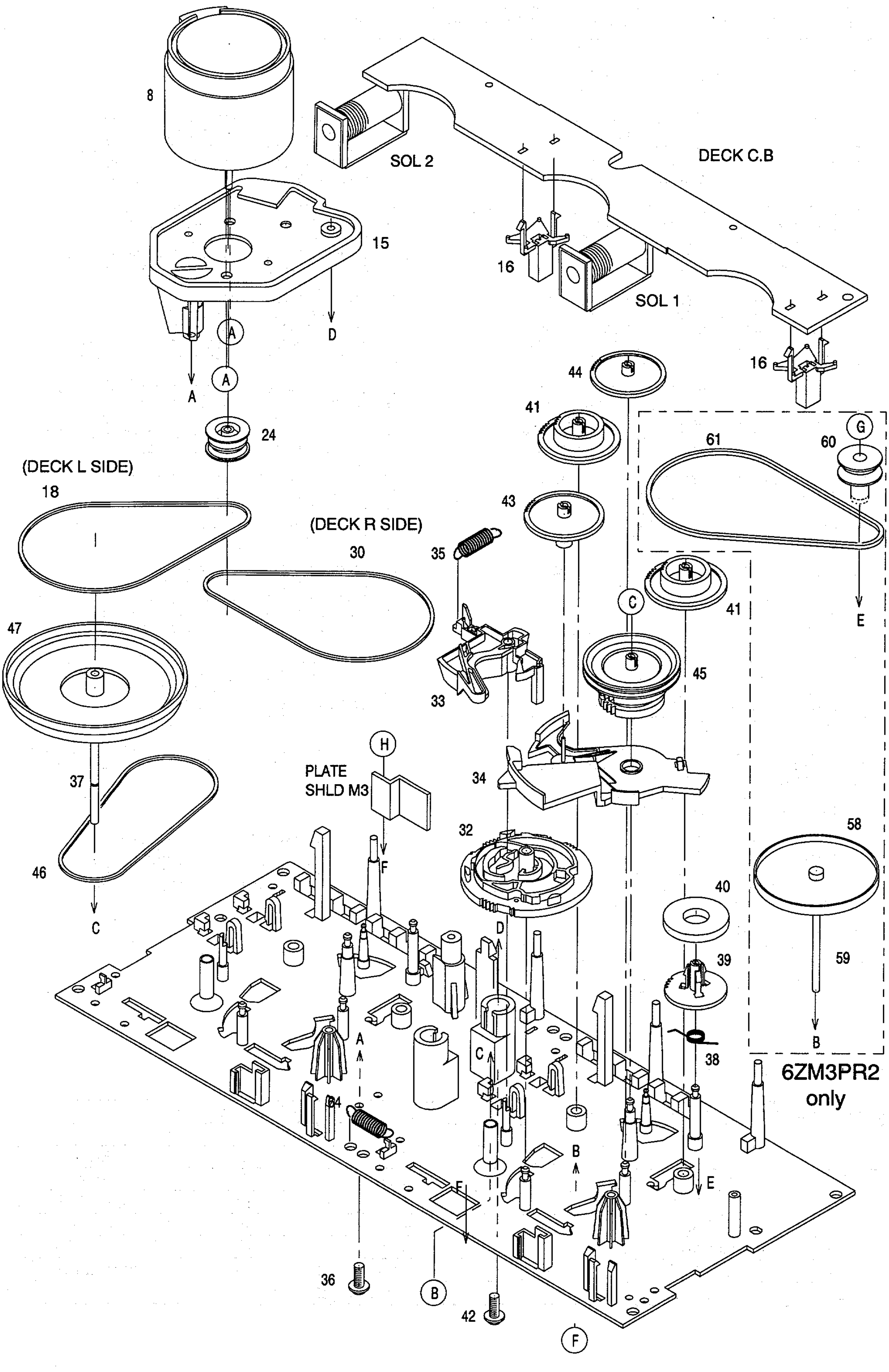

82-ZM1-219-110
SPR-T,LINK
82-ZM1-285-410
SPR-C,BT L
82-ZM1-257-019
SPR-T,CAS
82-ZM1-218-019
SPR-E,HB
82-ZM1-244-519
SPR-C,BT
82-ZM1-214-010
SPR-T,DIR
82-ZM1-255-310
SPR-E,LVR DIR
82-ZM1-213-010
SPR-T,HEAD
86-ZM1-258-210
SPR-T,PINCH L
86-ZM1-259-210
SPR-T,PINCH R
86-ZM3-204-010
SPR-T,PINCH DS
86-ZM3-205-010
SPR-C,RPH S
86-ZM3-206-010
SPR-C,EH S
82-ZM1-269-219
SPR-T,BRG

6ZM3PR2 only


82-ZM1-322-019
SPR-T,FR 60
82-ZM1-265-119
SPR-E.TRIG

# TAPE MECHANISM EXPLODED VIEW 1 / 1 (6ZM3PR1, 6ZM3PR2)


6ZM3PR2 DECK L only
57
51
D
D
E
53
52
55
54
56
62
63
49
27
HEAD
C.B
50
65
48
14
12
11
5
3
12
13
(DECK R
only)
6
2
17
10
9
7
LEVER
EJECT R
19
A
4
20
22
LEVER EJECT L
21
29
25
(DECK 2)
23
26
27
28
A
1


8
SOL 2
DECK C.B
15
16
SOL 1
D
A
A
A
16
44
41
24
61
G
60
(DECK L SIDE)
18
43
(DECK R SIDE)
35
30
41
C
47
E
45
33
H
PLATE
SHLD M3
34
37
32
58
F
46
40
C
D
39
59
A
C
38
B
6ZM3PR2
only
64
B
E
F
36
B
42
F

# TAPE MECHANISM PARTS LIST 1 / 1 (6ZM3PR1, 6ZM3PR2)

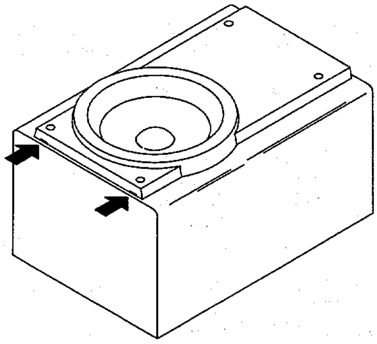
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 86-ZM3-212-010 | | CHAS ASSY,SS <6ZM3PR1> |
| 1 | 86-ZM3-215-010 | | CHAS ASSY,RS <6ZM3PR2> |
| 2 | 86-ZM3-202-010 | | BASE,HEAD S |
| 3 | 86-ZM3-205-010 | | SPR-C,RPH S |
| 4 | 82-ZM1-333-210 | | PLATE,LINK 2 |
| 5 | 86-ZM3-206-010 | | SPR-C,EH S |
| 6 | 87-A90-403-019 | | HEAD,RPH MS15R |
| 7 | 86-ZM3-201-010 | | CHAS,HEAD S(DECK L) |
| 7 | 82-ZM3-206-910 | | CHAS,HEAD(DECK R) |
| 8 | 87-045-347-019 | | MOT,SHU2L 70(M1) |
| 9 | 82-ZM1-269-219 | | SPR-T,BRG |
| 10 | 82-ZM3-323-119 | | SPR-T,LINK <6ZM3PR1> |
| 10 | 82-ZM1-219-110 | | SPR-T,LINK <6ZM3PR2> |
| 11 | 86-ZM3-209-010 | | S-SCREW,ASIMUTHS |
| 12 | 86-ZM3-207-010 | | S-SCREW,RPH |
| 13 | 87-A90-404-019 | | HEAD,EH LE15B |
| 14 | 86-ZM3-208-010 | | S-SCREW,EH |
| 15 | 86-ZM3-203-010 | | HLDR,MOTS |
| 16 | 82-ZM1-245-210 | | HLDR,IC |
| 17 | 82-ZM1-218-019 | | SPR-E,HB |
| 18 | 86-ZM3-211-010 | | BELT,RS <6ZM3PR1> |
| 18 | 86-ZM3-214-010 | | BELT,SUB RR <6ZM3PR2> |
| 19 | 82-ZM1-222-219 | | LVR,PLAY |
| 20 | 82-ZM1-217-419 | | REEL TABLE |
| 21 | 82-ZM1-244-519 | | SPR-C,BT |
| 22 | 82-ZM1-285-410 | | SPR-C,BT L |
| 23 | 82-ZM1-257-019 | | SPR-T,CAS |
| 24 | 82-ZM3-221-010 | | PULLEY,MOT 2M |
| 25 | 82-ZM1-242-019 | | LVR,CAS |
| 26 | 82-ZM1-243-019 | | LVR,STOP |
| 27 | 82-ZM1-344-119 | | LVR ASSY,PINCH |
| 28 | 86-ZM3-204-010 | | SPR-T,PINCHDS |
| 29 | 82-ZM1-240-119 | | LVR,REC (DECK 2) |
| 30 | 86-ZM3-210-010 | | BELT,RS |
| 32 | 82-ZM3-305-119 | | GEAR,CAM M2 |
| 33 | 82-ZM1-227-319 | | LVR,TRIG |
| 34 | 82-ZM3-306-110 | | LVR,FR M2 |
| 35 | 82-ZM1-265-119 | | SPR-E,TRIG |
| 36 | 85-ZM3-203-019 | | S-SCREW MOTOR M3 <6ZM3PR1> |
| 36 | 87-761-073-419 | | VFT2+2.6-6 W/O SLOT <6ZM3PR2> |
| 37 | 82-ZM1-236-019 | | CAPSTAN N 2-41.5 <6ZM3PR1> |
| 37 | 82-ZM1-239-019 | | CAPSTAN N 2.2-41.7 <6ZM3PR2> |
| 38 | 82-ZM1-322-019 | | SPR-T,FR60 |
| 39 | 82-ZM1-220-219 | | GEAR,IDLER |
| 40 | 82-ZM3-616-019 | | RING MAGNET 4 |
| 41 | 82-ZM1-216-319 | | GEAR,REEL |
| 42 | 86-ZM3-213-010 | | S-SCREW,HLDR,MOT 3 |
| 43 | 82-ZM1-225-219 | | GEAR,FR |
| 44 | 82-ZM1-226-019 | | GEAR,REW |
| 45 | 82-ZM3-333-210 | | SLIP DISK ASSY 2 <6ZM3PR1> |
| 45 | 82-ZM3-333-310 | | SLIP DISK ASSY 2 <6ZM3PR2> |
| 46 | 82-ZM1-338-010 | | BELT FR4 |
| 47 | 82-ZM1-349-019 | | FLY-WHL RW (DECK L) |
| 47 | 82-ZM3-338-010 | | FLY-WHL R3W (DECK R) |
| 48 | 82-ZM1-259-210 | | SPR-T,PINCH R <6ZM3PR2> |
| 49 | 82-ZM1-341-110 | | LVR ASSY,PINCH L2 <6ZM3PR2> |
| 50 | 82-ZM1-258-210 | | SPR-T,PINCH L <6ZM3PR2> |
| 51 | 82-ZM1-314-110 | | PLATE,HEAD <6ZM3PR2> |
| 52 | 82-ZM1-208-310 | | HLDR,HEAD <6ZM3PR2> |
| 53 | 87-A90-366-010 | | HEAD,PH YK50P-BF414 <6ZM3PR2> |
| 54 | 82-ZM1-207-810 | | GUIDE TAPE <6ZM3PR2> |
| 55 | 82-ZM1-213-010 | | SPR-T,HEAD <6ZM3PR2> |
| 56 | 82-ZM1-210-110 | | GEAR,HT <6ZM3PR2> |
| 57 | 86-ZM4-206-010 | | S-SCREW AZIMUTH L <6ZM3PR2> |
| 58 | 82-ZM1-348-010 | | FLY-WHL,LW <6ZM3PR2> |
| 59 | 82-ZM1-236-019 | | CAPSTAN N 2-41.5 <6ZM3PR2> |
| 60 | 82-ZM3-335-210 | | PULLEY,COUPLER M3 <6ZM3PR2> |
| 61 | 86-ZM1-206-010 | | BELT,MAIN L <6ZM3PR2> |
| 62 | 82-ZM1-266-110 | | LVR,DIR <6ZM3PR2> |
| 63 | 82-ZM1-214-010 | | SPR-T,DIR <6ZM3PR2> |
| 64 | 82-ZM1-255-310 | | SPR-E,LVR DIR <6ZM3PR2> |
| 65 | 82-ZM3-339-010 | | SHAFT,COUPLER N3 <6ZM3PR2> |
| A | 87-251-071-417 | | U+2.6-4 |
| B | 80-ZM6-243-019 | | SH,1.75-3.6-0.5 SLT |
| C | 82-ZM3-334-010 | | PW,2.16-6-0.4 <6ZM3PR2> |
| D | 80-ZM6-207-010 | | V+1.6-7 <6ZM3PR2> |
| E | 85-ZM3-202-010 | | S-SCREW TG <6ZM3PR2> |
| F | 82-ZM1-288-010 | | SH,1.63-3.2-0.5 SLT <6ZM3PR2> |
| G | 87-B10-043-010 | | W-P,0.99-4-0.25 SLT <6ZM3PR2> |
| H | 87-571-032-410 | | VIT+2-3 <6ZM3PR2> |

# SPEAKER DISASSEMBLY INSTRUCTIONS

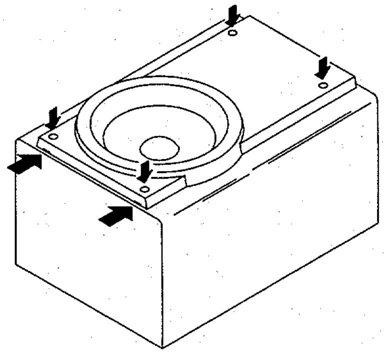
## Type.1

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



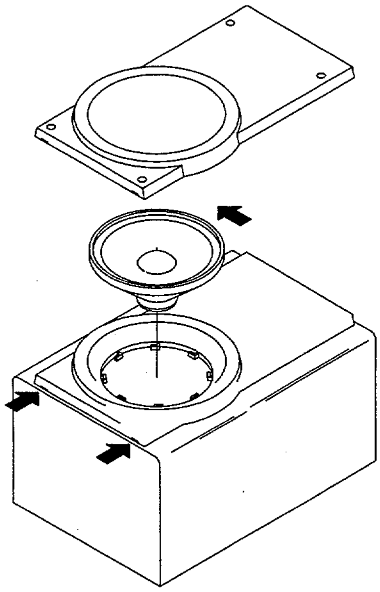
## Type.2

Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.

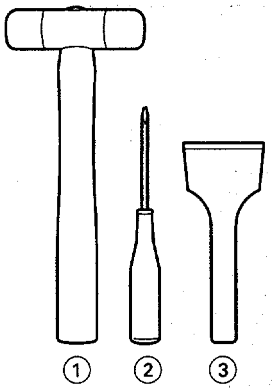


## Type.3

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



## Type.4



TOOLS

① Plastic head hammer
② (⊖) flat head screwdriver
③ Cut chisel

## How to Remove the PANEL, FR

1. Insert the (⊖) flat head screwdriver tip into the gap between the PANEL, FR and the PANEL, SPKR. Tap the head of the (⊖) flat head screwdriver with the plastic hammer head, and create the clearance as shown in Fig-1.
2. Insert the cut chisel in the clearance, and tap the head of the cut chisel with plastic hammer as shown in Fig-2, to remove the PANEL, FR.
3. Place the speaker horizontally. Tap head of the cut chisel with plastic hammer as shown in Fig-3, and remove the PANEL, FR completely.

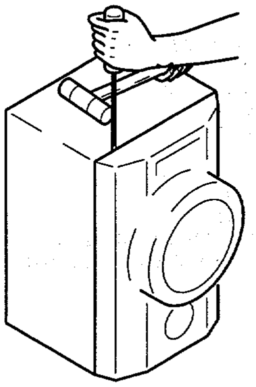


Fig-1

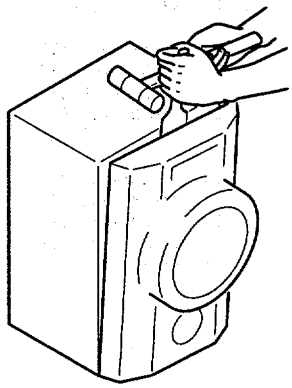


Fig-2

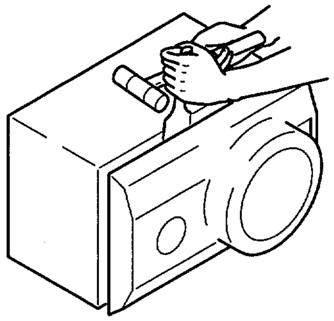


Fig-3

## How to Attach the PANEL, FR

Attach the PANEL, FR to the PANEL, SPKR. Tap the four corners of the PANEL, FR with the plastic hammer to fit the PANEL, FR into the PANEL, SPKR completely.

# SPEAKER PARTS LIST (SX-NS222:YLSTCC,YJSTC,YSTC,YSTY1,YSTY2,YJSTC. SX-NS223:YSTC,YSTY1,YSTY2. SX-NS226:YBC SX-SNS332:YLJSCM,YJSTC)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 8Z-NSK-001-010 | | PANEL,FR |
| 1 | 8Z-NSK-024-010 | | PANEL,FR<NS226YBC> |
| 2 | 8Z-NSK-002-010 | | PANEL,BA |
| 3 | 87-NSH-612-010 | | SPKR,CERAMIC ASSY |
| 4 | 87-NS7-611-010 | | CORD,SPKR |
| 5 | 87-NSJ-604-010 | | SPKR, W 120<SNS332YLJSCM> |
| 5 | 87-NSJ-602-010 | | SPKR,120<NS222YLSTCC,NS222YJSTC,NS332YJSTC,NS222YJSTC1> |
| 5 | 86-NSZ-601-110 | | SPKR,120<NS222YSTC,NS223YSTC,NS226YBC> |
| 5 | 8Z-NSK-601-010 | | SPKR,120<NS222YSTY1,NS222YSTY2,NS223YSTY2,NS223YSTY1> |

# SPEAKER PARTS LIST (SX-NS552:YJSTC1)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 87-NSH-612-010 | | SPKR,CERAMIC ASSY |
| 2 | 87-NS7-611-010 | | CORD,SPKR |
| 3 | 8Z-NSH-004-010 | | GRILLE,FRAME ASSY |
| 4 | 8Z-NSH-001-010 | | PANEL,FR |
| 5 | 8Z-NSH-002-010 | | PANEL,BA |
| 6 | 8Z-NSH-003-010 | | PANEL,RING(W) |
| 7 | 8Z-NSH-007-010 | | PROTECTOR |
| 8 | 83-NS8-606-010 | | SPKR, T 50 |
| 9 | 8Z-NSJ-601-010 | | SPKR, W 130 |

# SPEAKER PARTS LIST (SX-NAV224:YML)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 8Z-NSW-002-010 | | GRILLE,FRAME ASSY |
| 2 | 83-096-614-010 | | SPEAKER CODE |
| 3 | 8Z-NSW-602-010 | | SPKR, W 140 |
| 4 | 8Z-NSW-604-010 | | SPKR, W T 60 |
| 5 | 88-NS3-605-010 | | CAP |
| 6 | 8Z-NSW-009-010 | | CABI,M |

# ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 8Z-NF9-901-110 | | IB,H(ECA)M<222HR> |
| 1 | 8Z-NF9-905-010 | | IB,K(E)E<222K> |
| 1 | 8Z-NF9-906-010 | | IB,EZ(9L)E<222EZ> |
| 1 | 8Z-NF9-907-010 | | IB,V(ER)M<222V> |
| 1 | 8Z-NF9-911-010 | | IB,H(ECA)M-333<333HR> |
| 1 | 8Z-NF9-914-010 | | IB,H(ECA)M-336<336HR> |
| 1 | 8Z-NF9-916-010 | | IB,EZ(9L)E-223<223EZ> |
| 1 | 8Z-NF9-926-010 | | IB,EZ(9L)E-333<333EZ> |
| 1 | 8Z-NF9-933-010 | | IB,LH(P)CCE-229<229LH> |
| 1 | 8Z-NF9-934-010 | | IB,HA(S)KIT<222HA> |
| 1 | 8Z-NF9-937-010 | | IB,EZ(9L)M<226EZ> |
| 2 | 87-006-225-010 | | AM LOOP ANT NC2<EXCEPT HR> |
| 2 | 87-006-269-010 | | AM LOOP ANT<222HR,333HR> |
| 2 | 87-A90-054-010 | | AM LOOP ANT-CON C<336HR> |
| 3 | 87-043-106-010 | | ANT,FM 1007AWG<EZ,K> |
| 3 | 87-043-115-010 | | FEEDER-ANT,FM<EXCEPT EZ,K> |
| 4 | 87-043-095-010 | | ANT,WIRE<HR> |
| ⚠ 5 | 87-A91-017-010 | | PLUG,CONVERSION JT-0476<HR> |
| 6 | 8Z-NF8-702-010 | | RC UNIT,RC-ZAS02<333HR> |
| 6 | 8Z-NF8-701-110 | | RC UNIT,RC-ZAS02<336HR> |
| 6 | 8Z-NF9-701-010 | | RC UNIT,ZAS02<LH,HA,V,222HR> |
| 6 | 8Z-NF9-702-010 | | RC UNIT,ZAS02<222EZ,223EZ,333EZ> |
| 6 | 8Z-NF9-703-010 | | RC UNIT,ZAS02<226EZ> |

# REFERENCE NAME LIST

## ELECTRICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ANT | ANTENNAS |
| C- | CHIP |
| C-CAP | CAP, CHIP |
| C-CAP TN | CAP, CHIP TANTALUM |
| C-COIL | COIL, CHIP |
| C-DI | DIODE, CHIP |
| C-DIODE | DIODE, CHIP |
| C-FET | FET, CHIP |
| C-FOTR | FILTER, CHIP |
| C-JACK | JACK, CHIP |
| C-LED | LED, CHIP |
| C-RES | RES, CHIP |
| C-SFR | SFR, CHIP |
| C-SLIDE SW | SLIDE SWITCH, CHIP |
| C-SW | SWITCH, CHIP |
| C-TR | TRANSISTOR, CHIP |
| C-VR | VOLUME, CHIP |
| C-ZENER | ZENER, CHIP |
| CAP, CER | CAP, CERA-SOL |
| CAP, E | CAP, ELECT |
| CAP, M/F | CAP, FILM |
| CAP, TC | CAP, CERA-SOL |
| CAP, TC-U | CAP, CERA-SOL SS |
| CAP, TN | CAP, TANTALUM |
| CERA FIL | FILTER, CERAMIC |
| CF | FILTER, CERAMIC |
| DL | DELAY LINE |
| E/CAP | CAP, ELECT |
| FILT | FILTER |
| FLTR | FILTER |
| FUSE RES | RES, FUSE |
| MOT | MOTOR |
| P-DIODE | PHOTO DIODE |
| P-SNSR | PHOTO SENSER |
| P-TR | PHOTO TRANSISTOR |
| POLY VARI | VARIABLE CAPACITOR |
| PPCAP | CAP, PP |
| PT | POWER TRANSFORMER |
| PTR, RES | PTR, MELF |
| RC | REMOTE CONTROLLER |
| RES NF | RES, NON-FLAMMABLE |
| RESO | RESONATOR |
| SHLD | SHIELD |
| SOL | SOLENOID |
| SPKR | SPEAKER |
| SW, LVR | SWITCH, LEVER |
| SW, RTRY | SWITCH, ROTARY |
| SW, SL | SWITCH, SLIDE |
| TC CAP | CAP, CERA-SOL |
| THMS | THERMISTOR |
| TR | TRANSISTOR |
| TRIMER | CAP, TRIMMER |
| TUN-CAP | VARIABLE CAPACITOR |
| VIB, CER | RESONATOR, CERAMIC |
| VIB, XTAL | RESONATOR, CRYSTAL |
| VR | VOLUME |
| ZENER | DIODE, ZENER |

## MECHANICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ADHESHIVE | SHEET ADHESHIVE |
| AZ | AZIMUTH |
| BAR-ANT | BAR-ANTENNA |
| BAT | BATTERY |
| BATT | BATTERY |
| BRG | BEARING |
| BTN | BUTTON |
| CAB | CABINET |
| CASS | CASSETTE |
| CHAS | CHASSIS |
| CLR | COLLAR |
| CONT | CONTROL |
| CRSR | CURSOR |
| CU | CUSHION |
| CUSH | CUSHION |
| DIR | DIRECTION |
| DUBB | DUBBING |
| FL | FRONT LOADING |
| FLY-WHL | FLYWHEEL |
| FR | FRONT |
| FUN | FUNCTION |
| G-CU | G-CUSHION |
| HDL | HANDOL |
| HIMERON | CLOTH |
| HINGE, BAT | HINGE, BATTERY |
| HLDR | HOLDER |
| HT-SINK | HEAT SINK |
| IB | INSTRUCTION BOOKLET |
| IDLE | IDLER |
| IND, L-R | INDICATOR, L-R |
| KEY, CONT | KEY, CONTROL |
| KEY, PRGM | KEY, PROGRAM |
| KNOB, SL | KNOB, SLIDE |
| LBL | LABEL |
| LID, BATT | LID, BATTERY |
| LID, CASS | LID, CASSETTE |
| LVR | LEVER |
| P-SP | P-SPRING |
| PANEL, CONT | PANEL, CONTROL |
| PANEL, FR | PANEL, FRONT |
| PRGM | PROGRAM |
| PULLY, LOAD MO | PULLY, LOAD MOTOR |
| RBN | RIBBON |
| S- | SPECIAL |
| SEG | SEGMENT |
| SH | SHEET |
| SHLD-SH | SHIELD-SHEET |
| SL | SLIDE |
| SP | SPRING |
| SP-SCREW | SPECIAL-SCREW |
| SPACER, BAT | SPACER, BATTERY |
| SPR | SPRING |
| SPR-P | P-SPRING |
| SPR-PC-PUSH | P-SPRING, C-PUSH |
| T-SP | T-SPRING |
| TERM | TERMINAL |
| TRIG | TRIGGER |
| TUN | TUNING |
| VOL | VOLUME |
| W | WASHER |
| WHL | WHEEL |
| WORM-WHL | WORM-WHEEL |

| サービス技術ニュース | |
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| 番号 | 連絡内容 |
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| G—　— | |
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SERVICE

# NSX-A222
# NSX-A223
# NSX-S222
# NSX-S333

COMPACT DISC /
STEREO CASSETTE RECEIVER

- TYPE: U<A222/A223>
  LH<S222/S333>

SERVICE MANUAL

## SIMPLE MANUAL

- Replace this Service Manual with "Revision Publishing" when it is issued.

S/M Code No. 09–98C–312–6T1

# ELECTRICAL MAIN PARTS LIST - 1/8

NOTE: The characters in the suffix column indicate the part usage.

LH(Lo) ..................XX..................................A..................
U .......................XX...................................B.................
LH(Hi) ..................XX....................................C................

| REF.NO | PARTS NO. | KANRI NO. | DESCRIPTION | SUFFIX |
|---|---|---|---|---|
|  | 82-NF7-210-110 |  | GUIDE,FL (*) | ABC |
| * | 8Z-NF9-201-010 |  | GUIDE,OPE 1W | ABC |
| * | 8Z-NF9-202-010 |  | GUIDE,OPE R | ... |
| C 101 | 87-A11-140-080 |  | CAP,TC U 0.047-50 K B | ABC |
| C 153 | 87-010-221-080 |  | CAP, ELECT 470-10V | ABC |
| C 151 | 87-A11-142-080 |  | CAP,TC U 0.068-50 K B | ABC |
| C 204 | 87-010-246-040 |  | CAP,E 47-35 SME | ABC |
| C 201 | 87-010-421-040 |  | CAP,E 4.7-50 5L | ABC |
| C 202 | 87-010-421-040 |  | CAP,E 4.7-50 5L | ABC |
| C 203 | 87-010-560-040 |  | CAP,E 10-50 GAS | ABC |
| C 205 | 87-018-205-080 |  | CAP, CERA-SOL 0.022 | ABC |
| C 210 | 87-010-060-040 |  | CAP,E 100-16 | ABC |
| C 213 | 87-015-695-040 |  | E/CAP 1UF 50V TAPG | ABC |
| C 218 | 87-018-125-080 |  | CAP, CER 330P-50V | ABC |
| C 217 | 87-018-125-080 |  | CAP, CER 330P-50V | ABC |
| C 219 | 87-018-131-080 |  | CAP, CER 1000P-50V | ABC |
| C 216 | 87-018-131-080 |  | CAP, CER 1000P-50V | ABC |
| C 212 | 87-018-205-080 |  | CAP, CERA-SOL 0.022 | ABC |
| C 211 | 87-A10-189-040 |  | CAP,E 220-10 | ABC |
| C 214 | 87-A11-155-080 |  | CAP,TC U 0.01-16 Z F | ABC |
| C 221 | 87-018-104-080 |  | CAP,TC-U 10P-50 SL | ABC |
| C 222 | 87-018-128-080 |  | CAP, CERA-SOL SS 560P | ABC |
| C 220 | 87-018-205-080 |  | CAP, CERA-SOL 0.022 | ABC |
| C 224 | 87-018-205-080 |  | CAP, CERA-SOL 0.022 | ABC |
| C 231 | 87-015-681-040 |  | E/CAP 10-16 | ABC |
| C 230 | 87-A11-140-080 |  | CAP,TC U 0.047-50 K B | ABC |
| C 232 | 87-A11-140-080 |  | CAP,TC U 0.047-50 K B | ABC |
| C 234 | 87-A11-140-080 |  | CAP,TC U 0.047-50 K B | ABC |
| C 244 | 87-018-117-080 |  | CAP,TC-U 68P-50 SL | ABC |
| C 241 | 87-018-117-080 |  | CAP,TC-U 68P-50 SL | ABC |
| C 243 | 87-018-117-080 |  | CAP,TC-U 68P-50 SL | ABC |
| C 242 | 87-018-117-080 |  | CAP,TC-U 68P-50 SL | ABC |
| C 245 | 87-018-117-080 |  | CAP,TC-U 68P-50 SL | ABC |
| C 246 | 87-018-118-080 |  | CAP,TC-U 82P-50 B | ABC |
| C 252 | 87-018-131-080 |  | CAP, CER 1000P-50V | ABC |
| C 701 | 87-018-115-080 |  | CAP, CER 47P-50V | ABC |
| CN 701 | 87-099-013-010 |  | CONN,11P 6216 V | ABC |
| CON 102 | 87-099-015-010 |  | CONN,13P 6216V | ABC |
| CON 101 | 87-099-720-010 |  | CONN,30P TYK-B(P) | ABC |
| D 151 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 202 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 203 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 201 | 87-A40-509-080 |  | ZENER,MTZJ6.8C | ABC |
| D 214 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 217 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 213 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 218 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 215 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 212 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 216 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 219 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 228 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 220 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 229 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 222 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 227 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 221 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 225 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 224 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 226 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 223 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 230 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 237 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 234 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ... |
| D 232 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 238 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ... |
| D 240 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 701 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| D 702 | 87-020-465-080 |  | DIODE,1SS133 (110MA) | ABC |
| FL 301 | 8Z-NF9-610-010 |  | FL,SVA-10MS12 | ABC |
| IC 202 | 87-A20-914-010 |  | IC,SPS-442-1-F | ABC |
| IC 201 | 8Z-NF9-630-010 |  | C-IC,M38B59MFH-P101FP | ABC |
| L 201 | 87-A50-434-010 |  | COIL,CLK 4.19M(TOKO) | ABC |
| LED 604 | 87-A40-619-080 |  | LED,SLR-56PT-TE7-W GRN | ABC |
| LED 609 | 87-A40-619-080 |  | LED,SLR-56PT-TE7-W GRN | ... |
| LED 602 | 87-A40-619-080 |  | LED,SLR-56PT-TE7-W GRN | ABC |
| LED 608 | 87-A40-619-080 |  | LED,SLR-56PT-TE7-W GRN | ... |
| LED 605 | 87-A40-619-080 |  | LED,SLR-56PT-TE7-W GRN | ABC |
| LED 601 | 87-A40-619-080 |  | LED,SLR-56PT-TE7-W GRN | ABC |
| LED 603 | 87-A40-619-080 |  | LED,SLR-56PT-TE7-W GRN | ABC |
| Q 101 | 87-026-218-080 |  | TR,DTC144ES (0.2W) | ABC |
| Q 102 | 87-026-218-080 |  | TR,DTC144ES (0.2W) | ABC |
| Q 152 | 87-026-609-080 |  | TR,KTA1266GR | ABC |
| Q 153 | 87-026-610-080 |  | TR,KTC3198GR | ABC |

# ELECTRICAL MAIN PARTS LIST - 2/8

| | | | | |
|---|---|---|---|---|
| Q | 151 | 87-026-610-080 | TR,KTC3198GR | ABC................. |
| Q | 206 | 87-026-215-080 | TR,DTC114YS | ABC................. |
| Q | 205 | 87-026-610-080 | TR,KTC3198GR | ABC................. |
| Q | 203 | 87-026-610-080 | TR,KTC3198GR | ABC................. |
| Q | 204 | 87-A30-090-080 | FET,2SK2541 | ABC................. |
| Q | 202 | 87-A30-090-080 | FET,2SK2541 | ABC................. |
| Q | 201 | 87-A30-090-080 | FET,2SK2541 | ABC................. |
| Q | 602 | 87-026-287-080 | TR,DTC143ES | ABC................. |
| Q | 606 | 87-026-287-080 | TR,DTC143ES | ABC................. |
| Q | 601 | 87-026-287-080 | TR,DTC143ES | ABC................. |
| Q | 604 | 87-026-287-080 | TR,DTC143ES | .................... |
| Q | 605 | 87-026-287-080 | TR,DTC143ES | ABC................. |
| Q | 603 | 87-026-287-080 | TR,DTC143ES | ABC................. |
| Q | 701 | 87-026-245-080 | TR,DTC114ES | ABC................. |
| Q | 702 | 87-A30-240-080 | TR,CSA1585BC | ABC................. |
| Q | 703 | 87-A30-241-080 | TR,KTA1272Y | ABC................. |
| Q | 704 | 87-A30-241-080 | TR,KTA1272Y | ABC................. |
| S | 201 | 87-A90-535-010 | SW,RTRY EC16B24304 | ABC................. |
| S | 202 | 87-A90-791-010 | SW,RTRY EC16B12204 ENCODER | ABC................. |
| S | 304 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 306 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 307 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 303 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 308 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 305 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 301 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 302 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 309 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 310 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 317 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 318 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 314 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 312 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 316 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 319 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 321 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 325 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 320 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 329 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 323 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 322 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 324 | 87-A90-095-080 | SW,TACT EVQ11G04M | ABC................. |
| S | 330 | 87-A90-095-080 | SW,TACT EVQ11G04M | .................... |
| C | 402 | 87-010-112-040 | CAP,E 100-16 | .................... |
| C | 409 | 87-010-265-040 | CAP,E 33-16 SME | .................... |
| C | 405 | 87-010-544-040 | CAP,E 0.1-50 SME | .................... |
| C | 407 | 87-015-699-040 | CAP,E 10-50 7L | .................... |
| C | 404 | 87-018-117-080 | CAP,TC-U 68P-50 SL | .................... |
| C | 408 | 87-018-118-080 | CAP,TC-U 82P-50 B | .................... |
| C | 406 | 87-A11-144-080 | CAP,TC U 0.1-50 K B | .................... |
| C | 403 | 87-A11-149-080 | CAP,TC U 0.22-50 Z F | .................... |
| C | 401 | 87-A11-154-080 | CAP,TC U 4700P-16 Z F | .................... |
| C | 410 | 87-A11-140-080 | CAP,TC U 0.047-50 K B | .................... |
| EMI | 401 | 87-008-372-080 | FILTER, EMI BL OIRNI | .................... |
| J | 401 | 87-A60-651-010 | JACK,3.5MONO | .................... |
| Q | 404 | 87-026-609-080 | TR,KTA1266GR | .................... |
| Q | 402 | 87-026-609-080 | TR,KTA1266GR | .................... |
| Q | 403 | 87-026-610-080 | TR,KTC3198GR | .................... |
| Q | 401 | 87-026-610-080 | TR,KTC3198GR | .................... |
| Q | 406 | 87-026-610-080 | TR,KTC3198GR | .................... |
| Q | 405 | 87-A30-090-080 | FET,2SK2541 | .................... |
| VR | 401 | 86-NFA-607-010 | VR,RTRY 10K15AX1 1 V XV0121PVN | .................... |
| FC | 1 | 87-033-213-080 | CLAMP, FUSE | .B.................. |
| FC | 2 | 87-033-213-080 | CLAMP, FUSE | .B.................. |
| PR | 102 | 87-026-681-080 | PROTECTOR,5A 60V 491 | A................... |
| PR | 101 | 87-026-681-080 | PROTECTOR,5A 60V 491 | A................... |
| T | 1 | 87-A60-317-010 | TERMINAL, 1P MSC | .B.................. |
| T | 2 | 87-A60-317-010 | TERMINAL, 1P MSC | .B.................. |
| WH | 101 | 87-A90-459-010 | HLDR,WIRE 2.5-5P | AB.................. |
| PR | 5 | 87-026-681-080 | PROTECTOR,5A 60V 491 | ..C................. |
| PR | 4 | 87-026-681-080 | PROTECTOR,5A 60V 491 | ..C................. |
| R | 1 | 87-A00-261-080 | RES,M/F 0.56-1W J | ..C................. |
| R | 2 | 87-A00-261-080 | RES,M/F 0.56-1W J | ..C................. |
| WH | 101 | 87-A90-460-010 | HLDR,WIRE 2.5-7P | ..C................. |
| C | 108 | 87-010-381-080 | CAP, ELECT 330-16V | AB.................. |
| C | 107 | 87-010-384-080 | CAP, ELECT 100-25V | AB.................. |
| C | 106 | 87-010-408-080 | CAP, ELECT 47-50V | AB.................. |
| C | 109 | 87-010-917-090 | CAP,E 3300-50 M SMG | .................... |
| C | 103 | 87-016-051-090 | CAP,E 2200-35 SMG | AB.................. |
| C | 101 | 87-016-495-090 | CAP,E 3300-25 SMG | .................... |
| C | 105 | 87-018-127-080 | CAP, CER 470P-50V | AB.................. |
| C | 104 | 87-A10-011-090 | CAP,E 2200-25 SMG | .................... |
| C | 101 | 87-A10-520-090 | CAP,E 3300-35 M SMG | AB.................. |
| C | 102 | 87-A10-627-090 | CAP,E 2200-50 M SMG | .................... |
| C | 111 | 87-010-247-080 | CAP, ELECT 100-50V | .................... |
| C | 112 | 87-010-263-080 | CAP, ELECT 100-10V | AB.................. |
| C | 110 | 87-010-263-080 | CAP, ELECT 100-10V | .B.................. |
| C | 114 | 87-010-374-080 | CAP, ELECT 47-10V | AB.................. |
| C | 113 | 87-010-403-080 | CAP, ELECT 3.3-50V | AB.................. |
| C | 111 | 87-010-430-080 | CAP, ELECT 100-63 | AB.................. |
| C | 115 | 87-A11-007-080 | CAP,M 0.047-50 J DE | AB.................. |
| C | 116 | 87-A11-007-080 | CAP,M 0.047-50 J DE | AB.................. |

# ELECTRICAL MAIN PARTS LIST - 3/8

| | | | | |
|---|---|---|---|---|
| C | 122 | 87-010-384-080 | CAP, ELECT 100-25V | .................... |
| C | 123 | 87-010-384-080 | CAP, ELECT 100-25V | .................... |
| C | 123 | 87-010-408-080 | CAP, ELECT 47-50V | AB.................. |
| C | 122 | 87-010-408-080 | CAP, ELECT 47-50V | AB.................. |
| C | 152 | 87-010-385-080 | CAP, ELECT 220-25V | .................... |
| C | 152 | 87-010-394-080 | CAP ELECT220-35V | AB.................. |
| C | 152 | 87-010-409-080 | CAP,E 220-50 SME | .................... |
| D | 108 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 109 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 107 | 87-A40-336-080 | ZENER,MTZJ27D T-72 | AB.................. |
| D | 113 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 116 | 87-070-274-080 | DIODE,1N4003 SEM | AB.................. |
| D | 117 | 87-070-274-080 | DIODE,1N4003 SEM | AB.................. |
| D | 110 | 87-A40-345-080 | ZENER,MTZJ10C | AB.................. |
| D | 121 | 87-A40-455-080 | DIODE,RL203 GW | AB.................. |
| D | 123 | 87-A40-455-080 | DIODE,RL203 GW | AB.................. |
| D | 124 | 87-A40-455-080 | DIODE,RL203 GW | AB.................. |
| D | 122 | 87-A40-455-080 | DIODE,RL203 GW | AB.................. |
| D | 121 | 87-A40-535-080 | DIODE,1N5393-GOODARK | .................... |
| D | 122 | 87-A40-535-080 | DIODE,1N5393-GOODARK | .................... |
| D | 124 | 87-A40-535-080 | DIODE,1N5393-GOODARK | .................... |
| D | 123 | 87-A40-535-080 | DIODE,1N5393-GOODARK | .................... |
| Q | 105 | 87-026-609-080 | TR,KTA1266GR | AB.................. |
| Q | 108 | 87-026-609-080 | TR,KTA1266GR | AB.................. |
| Q | 102 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| Q | 103 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| Q | 109 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| Q | 106 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| Q | 107 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| Q | 104 | 87-A30-196-080 | TR,2SC4115SRS | AB.................. |
| Q | 115 | 87-026-219-080 | TR,DTA144ES (0.3W) | AB.................. |
| Q | 112 | 87-026-269-080 | TR,DTA114ES | AB.................. |
| Q | 110 | 87-026-609-080 | TR,KTA1266GR | AB.................. |
| Q | 113 | 87-026-609-080 | TR,KTA1266GR | .B.................. |
| Q | 111 | 89-213-702-010 | TR,2SB1370 (1.8W) | AB.................. |
| R | 124 | 87-A00-261-080 | RES,M/F 0.56-1W J | .B.................. |
| RY | 101 | 87-A90-464-010 | RELAY, DG12D2-O(M) | AB.................. |
| W | 101 | 83-NE2-618-110 | F-CABEL,5P-2.5 | AB.................. |
| WH | 102 | 87-A90-459-010 | HLDR,WIRE 2.5-5P | AB.................. |
| C | 108 | 87-010-381-080 | CAP, ELECT 330-16V | ..C................. |
| C | 109 | 87-010-384-080 | CAP, ELECT 100-25V | ..C................. |
| C | 107 | 87-010-384-080 | CAP, ELECT 100-25V | ..C................. |
| C | 102 | 87-010-385-080 | CAP, ELECT 220-25V | ..C................. |
| C | 106 | 87-010-408-080 | CAP, ELECT 47-50V | ..C................. |
| C | 103 | 87-010-917-090 | CAP,E 3300-50 M SMG | ..C................. |
| C | 101 | 87-016-495-090 | CAP,E 3300-25 SMG | ..C................. |
| C | 105 | 87-018-127-080 | CAP, CER 470P-50V | ..C................. |
| C | 104 | 87-A10-627-090 | CAP,E 2200-50 M SMG | ..C................. |
| C | 111 | 87-010-247-080 | CAP, ELECT 100-50V | ..C................. |
| C | 112 | 87-010-263-080 | CAP, ELECT 100-10V | ..C................. |
| C | 114 | 87-010-374-080 | CAP, ELECT 47-10V | ..C................. |
| C | 110 | 87-010-384-080 | CAP, ELECT 100-25V | ..C................. |
| C | 113 | 87-010-403-080 | CAP, ELECT 3.3-50V | ..C................. |
| C | 122 | 87-010-384-080 | CAP, ELECT 100-25V | ..C................. |
| C | 123 | 87-010-384-080 | CAP, ELECT 100-25V | ..C................. |
| C | 130 | 87-018-131-080 | CAP, CER 1000P-50V | ..C................. |
| D | 108 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 109 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 101 | 87-070-274-080 | DIODE,1N4003 SEM | ..C................. |
| D | 104 | 87-070-274-080 | DIODE,1N4003 SEM | ..C................. |
| D | 102 | 87-070-274-080 | DIODE,1N4003 SEM | ..C................. |
| D | 103 | 87-070-274-080 | DIODE,1N4003 SEM | ..C................. |
| D | 106 | 87-070-274-080 | DIODE,1N4003 SEM | ..C................. |
| D | 105 | 87-070-274-080 | DIODE,1N4003 SEM | ..C................. |
| D | 107 | 87-A40-336-080 | ZENER,MTZJ27D T-72 | ..C................. |
| D | 112 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 111 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 117 | 87-070-274-080 | DIODE,1N4003 SEM | ..C................. |
| D | 116 | 87-070-274-080 | DIODE,1N4003 SEM | ..C................. |
| D | 115 | 87-A40-116-060 | DIODE,RS403L-B-D-51 | ..C................. |
| D | 110 | 87-A40-345-080 | ZENER,MTZJ10C | ..C................. |
| Q | 105 | 87-026-609-080 | TR,KTA1266GR | ..C................. |
| Q | 102 | 87-026-610-080 | TR,KTC3198GR | ..C................. |
| Q | 104 | 87-A30-196-080 | TR,2SC4115SRS | ..C................. |
| Q | 108 | 87-A30-197-080 | TR,KTA1267GR | ..C................. |
| Q | 109 | 87-A30-198-080 | TR,KTC3199GR | ..C................. |
| Q | 106 | 87-A30-198-080 | TR,KTC3199GR | ..C................. |
| Q | 107 | 87-A30-198-080 | TR,KTC3199GR | ..C................. |
| Q | 103 | 87-A30-198-080 | TR,KTC3199GR | ..C................. |
| Q | 115 | 87-026-219-080 | TR,DTA144ES (0.3W) | ..C................. |
| Q | 110 | 87-A30-197-080 | TR,KTA1267GR | ..C................. |
| Q | 111 | 89-213-702-010 | TR,2SB1370 (1.8W) | ..C................. |
| RY | 1 | 87-A90-464-010 | RELAY, DG12D2-O(M) | ..C................. |
| W | 101 | 85-NF5-628-010 | F-CABLE 7P-2.5 | ..C................. |
| WH | 102 | 87-A90-460-010 | HLDR,WIRE 2.5-7P | ..C................. |
| | | 87-067-703-010 | TAPPING SCREW, BVT2+3-10 | AB.................. |
| C | 208 | 87-010-546-080 | CAP, ELECT 0.33-50V | AB.................. |
| C | 207 | 87-010-546-080 | CAP, ELECT 0.33-50V | AB.................. |
| C | 209 | 87-A11-154-080 | CAP,TC U 4700P-16 Z F | AB.................. |
| C | 214 | 87-010-260-080 | CAP, ELECT 47-25V | AB.................. |
| C | 213 | 87-010-260-080 | CAP, ELECT 47-25V | AB.................. |
| C | 212 | 87-010-403-080 | CAP, ELECT 3.3-50V | AB.................. |

# ELECTRICAL MAIN PARTS LIST - 4/8

| | | | | |
|---|---|---|---|---|
| C | 211 | 87-010-403-080 | CAP, ELECT 3.3-50V | AB.................. |
| C | 219 | 87-010-544-080 | CAP, ELECT 0.1-50V | AB.................. |
| C | 217 | 87-A11-008-080 | CAP,M 0.056-50 J DE | AB.................. |
| C | 218 | 87-A11-008-080 | CAP,M 0.056-50 J DE | AB.................. |
| C | 210 | 87-A11-154-080 | CAP,TC U 4700P-16 Z F | AB.................. |
| C | 220 | 87-010-544-080 | CAP, ELECT 0.1-50V | AB.................. |
| C | 229 | 87-018-123-080 | CAP, CER 220P-50V | AB.................. |
| C | 222 | 87-018-211-080 | CAP, CER 0.01-50 | .................... |
| C | 221 | 87-018-211-080 | CAP, CER 0.01-50 | .................... |
| C | 223 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 224 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 230 | 87-018-123-080 | CAP, CER 220P-50V | AB.................. |
| C | 235 | 87-A11-148-080 | CAP,TC U 0.1-50 Z F | AB.................. |
| C | 236 | 87-A11-148-080 | CAP,TC U 0.1-50 Z F | AB.................. |
| C | 237 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | AB.................. |
| C | 256 | 87-018-115-080 | CAP, CER 47P-50V | .................... |
| C | 255 | 87-018-115-080 | CAP, CER 47P-50V | .................... |
| C | 257 | 87-018-119-080 | CAP, CER 100P-50V | .................... |
| C | 258 | 87-018-119-080 | CAP, CER 100P-50V | .................... |
| C | 253 | 87-018-131-080 | CAP, CER 1000P-50V | .................... |
| C | 254 | 87-018-131-080 | CAP, CER 1000P-50V | .................... |
| D | 202 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 205 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 206 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 203 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 201 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 204 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 209 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 217 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 218 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 210 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 216 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 219 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 220 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 221 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| D | 222 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| J | 202 | 87-A60-238-010 | TERMINAL,SP 4P (MSC) | AB.................. |
| J | 203 | 87-A60-425-010 | JACK,PIN 2P YKC21-3838 | .B.................. |
| J | 201 | 87-A60-602-010 | JACK,DIA6.3 BLK ST W/SW TC | AB.................. |
| L | 202 | 87-003-383-010 | COIL,1UH-S | AB.................. |
| L | 201 | 87-003-383-010 | COIL,1UH-S | AB.................. |
| Q | 203 | 87-026-609-080 | TR,KTA1266GR | AB.................. |
| Q | 202 | 87-026-609-080 | TR,KTA1266GR | AB.................. |
| Q | 201 | 87-026-609-080 | TR,KTA1266GR | AB.................. |
| Q | 204 | 87-026-609-080 | TR,KTA1266GR | AB.................. |
| Q | 209 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| Q | 205 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| Q | 206 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| Q | 208 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| Q | 207 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| Q | 218 | 87-026-609-080 | TR,KTA1266GR | AB.................. |
| Q | 216 | 87-026-610-080 | TR,KTC3198GR | .................... |
| Q | 210 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| Q | 215 | 87-026-610-080 | TR,KTC3198GR | .................... |
| Q | 215 | 87-A30-190-080 | TR,CC5551 | AB.................. |
| Q | 216 | 87-A30-190-080 | TR,CC5551 | AB.................. |
| Q | 213 | 87-A30-214-010 | TR,2SB1344 | .................... |
| Q | 214 | 87-A30-214-010 | TR,2SB1344 | .................... |
| Q | 211 | 87-A30-215-010 | TR,2SD2025 | .................... |
| Q | 212 | 87-A30-215-010 | TR,2SD2025 | .................... |
| Q | 213 | 87-A30-255-010 | TR,2SB1342 | A................... |
| Q | 214 | 87-A30-255-010 | TR,2SB1342 | A................... |
| Q | 212 | 87-A30-256-010 | TR,2SD1933 | A................... |
| Q | 211 | 87-A30-256-010 | TR,2SD1933 | A................... |
| Q | 232 | 87-A30-137-010 | TR,2SD2494 | .B.................. |
| Q | 231 | 87-A30-137-010 | TR,2SD2494 | .B.................. |
| Q | 234 | 87-A30-138-010 | TR,2SB1625 | .B.................. |
| Q | 233 | 87-A30-138-010 | TR,2SB1625 | .B.................. |
| R | 224 | 87-A00-258-080 | RES,M/F 0.22-1W J | AB.................. |
| R | 223 | 87-A00-258-080 | RES,M/F 0.22-1W J | AB.................. |
| R | 249 | 87-A00-258-080 | RES,M/F 0.22-1W J | AB.................. |
| R | 250 | 87-A00-258-080 | RES,M/F 0.22-1W J | AB.................. |
| | | 87-067-703-010 | TAPPING SCREW, BVT2+3-10 | ..C................. |
| C | 207 | 87-010-546-080 | CAP, ELECT 0.33-50V | ..C................. |
| C | 208 | 87-010-546-080 | CAP, ELECT 0.33-50V | ..C................. |
| C | 209 | 87-A11-154-080 | CAP,TC U 4700P-16 Z F | ..C................. |
| C | 211 | 87-010-403-080 | CAP, ELECT 3.3-50V | ..C................. |
| C | 212 | 87-010-403-080 | CAP, ELECT 3.3-50V | ..C................. |
| C | 219 | 87-010-544-080 | CAP, ELECT 0.1-50V | ..C................. |
| C | 213 | 87-A10-899-080 | CAP,E 47-25 M BP SME | ..C................. |
| C | 214 | 87-A10-899-080 | CAP,E 47-25 M BP SME | ..C................. |
| C | 210 | 87-A11-154-080 | CAP,TC U 4700P-16 Z F | ..C................. |
| C | 220 | 87-010-544-080 | CAP, ELECT 0.1-50V | ..C................. |
| C | 229 | 87-018-123-080 | CAP, CER 220P-50V | ..C................. |
| C | 230 | 87-018-123-080 | CAP, CER 220P-50V | ..C................. |
| C | 236 | 87-A11-148-080 | CAP,TC U 0.1-50 Z F | ..C................. |
| C | 235 | 87-A11-148-080 | CAP,TC U 0.1-50 Z F | ..C................. |
| C | 237 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | ..C................. |
| D | 205 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 201 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 206 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 203 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |

# ELECTRICAL MAIN PARTS LIST - 5/8

| | | | | |
|---|---|---|---|---|
| D | 202 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 204 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 209 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 217 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 218 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 210 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 216 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 219 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 221 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 220 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| D | 222 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| J | 202 | 87-033-240-010 | TERMINAL,SP 4P32SV1-05 | ..C................. |
| J | 201 | 87-A60-602-010 | JACK,DIA6.3 BLK ST W/SW TC | ..C................. |
| L | 202 | 87-003-383-010 | COIL,1UH-S | ..C................. |
| L | 201 | 87-003-383-010 | COIL,1UH-S | ..C................. |
| Q | 209 | 87-A30-190-080 | TR,CC5551 | ..C................. |
| Q | 202 | 87-A30-197-080 | TR,KTA1267GR | ..C................. |
| Q | 203 | 87-A30-197-080 | TR,KTA1267GR | ..C................. |
| Q | 204 | 87-A30-197-080 | TR,KTA1267GR | ..C................. |
| Q | 201 | 87-A30-197-080 | TR,KTA1267GR | ..C................. |
| Q | 207 | 87-A30-198-080 | TR,KTC3199GR | ..C................. |
| Q | 206 | 87-A30-198-080 | TR,KTC3199GR | ..C................. |
| Q | 208 | 87-A30-198-080 | TR,KTC3199GR | ..C................. |
| Q | 205 | 87-A30-198-080 | TR,KTC3199GR | ..C................. |
| Q | 210 | 87-A30-190-080 | TR,CC5551 | ..C................. |
| Q | 216 | 87-A30-190-080 | TR,CC5551 | ..C................. |
| Q | 215 | 87-A30-190-080 | TR,CC5551 | ..C................. |
| Q | 218 | 87-A30-197-080 | TR,KTA1267GR | ..C................. |
| Q | 214 | 87-A30-214-010 | TR,2SB1344 | ..C................. |
| Q | 213 | 87-A30-214-010 | TR,2SB1344 | ..C................. |
| Q | 211 | 87-A30-215-010 | TR,2SD2025 | ..C................. |
| Q | 212 | 87-A30-215-010 | TR,2SD2025 | ..C................. |
| R | 223 | 87-A00-258-080 | RES,M/F 0.22-1W J | ..C................. |
| R | 224 | 87-A00-258-080 | RES,M/F 0.22-1W J | ..C................. |
| R | 249 | 87-A00-258-080 | RES,M/F 0.22-1W J | ..C................. |
| R | 250 | 87-A00-258-080 | RES,M/F 0.22-1W J | ..C................. |
| C | 308 | 87-010-263-080 | CAP, ELECT 100-10V | AB.................. |
| C | 307 | 87-010-263-080 | CAP, ELECT 100-10V | AB.................. |
| C | 309 | 87-018-115-080 | CAP, CER 47P-50V | .................... |
| C | 302 | 87-018-131-080 | CAP, CER 1000P-50V | AB.................. |
| C | 301 | 87-018-131-080 | CAP, CER 1000P-50V | AB.................. |
| C | 304 | 87-018-131-080 | CAP, CER 1000P-50V | AB.................. |
| C | 303 | 87-018-131-080 | CAP, CER 1000P-50V | AB.................. |
| C | 315 | 87-010-374-080 | CAP, ELECT 47-10V | AB.................. |
| C | 318 | 87-010-546-080 | CAP, ELECT 0.33-50V | AB.................. |
| C | 317 | 87-010-546-080 | CAP, ELECT 0.33-50V | AB.................. |
| C | 310 | 87-018-115-080 | CAP, CER 47P-50V | .................... |
| C | 311 | 87-A11-009-080 | CAP,M 0.068-50 J DE | AB.................. |
| C | 312 | 87-A11-009-080 | CAP,M 0.068-50 J DE | AB.................. |
| C | 326 | 87-018-205-080 | CAP, CERA-SOL 0.022 | AB.................. |
| C | 361 | 87-010-374-080 | CAP, ELECT 47-10V | AB.................. |
| C | 360 | 87-010-401-080 | CAP, ELECT 1-50V | AB.................. |
| C | 399 | 87-018-127-080 | CAP, CER 470P-50V | AB.................. |
| C | 401 | 87-010-544-080 | CAP, ELECT 0.1-50V | AB.................. |
| C | 402 | 87-010-544-080 | CAP, ELECT 0.1-50V | AB.................. |
| C | 403 | 87-018-118-080 | CAP,TC-U 82P-50 B | AB.................. |
| C | 404 | 87-018-118-080 | CAP,TC-U 82P-50 B | AB.................. |
| C | 412 | 87-010-405-080 | CAP, ELECT 10-50V | AB.................. |
| C | 411 | 87-010-405-080 | CAP, ELECT 10-50V | AB.................. |
| C | 452 | 87-010-382-080 | CAP, ELECT 22-25V | AB.................. |
| C | 459 | 87-018-128-080 | CAP, CERA-SOL SS 560P | AB.................. |
| C | 458 | 87-018-131-080 | CAP, CER 1000P-50V | AB.................. |
| C | 457 | 87-A10-772-080 | CAP,M 5600P-50 J | AB.................. |
| C | 461 | 87-018-126-080 | CAP,TC-U 390P-50 B | AB.................. |
| C | 462 | 87-018-126-080 | CAP,TC-U 390P-50 B | AB.................. |
| CN | 301 | 87-A60-620-010 | CONN,3P V 2MM JMT | AB.................. |
| CN | 351 | 87-A60-625-010 | CONN,8P V 2MM JMT | AB.................. |
| D | 401 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| IC | 301 | 87-017-889-010 | IC,NJM4558LD | AB.................. |
| IC | 401 | 87-017-889-010 | IC,NJM4558LD | AB.................. |
| L | 451 | 87-007-342-010 | COIL,OSC 85K BIAS | AB.................. |
| Q | 306 | 87-026-218-080 | TR,DTC144ES (0.2W) | AB.................. |
| Q | 309 | 87-026-609-080 | TR,KTA1266GR | AB.................. |
| Q | 303 | 87-A30-090-080 | FET,2SK2541 | AB.................. |
| Q | 304 | 87-A30-090-080 | FET,2SK2541 | AB.................. |
| Q | 301 | 87-A30-091-080 | FET,2SJ460 | AB.................. |
| Q | 302 | 87-A30-091-080 | FET,2SJ460 | AB.................. |
| Q | 305 | 87-A30-091-080 | FET,2SJ460 | AB.................. |
| Q | 308 | 87-A30-091-080 | FET,2SJ460 | AB.................. |
| Q | 307 | 87-A30-091-080 | FET,2SJ460 | AB.................. |
| Q | 310 | 87-026-609-080 | TR,KTA1266GR | AB.................. |
| Q | 444 | 87-026-609-080 | TR,KTA1266GR | AB.................. |
| Q | 443 | 87-026-609-080 | TR,KTA1266GR | AB.................. |
| Q | 454 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| Q | 455 | 87-026-610-080 | TR,KTC3198GR | .................... |
| Q | 451 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| Q | 453 | 87-026-610-080 | TR,KTC3198GR | AB.................. |
| SFR | 451 | 87-024-355-080 | SFR,33K DIA6 H | AB.................. |
| SFR | 452 | 87-024-355-080 | SFR,33K DIA6 H | AB.................. |
| C | 307 | 87-010-263-080 | CAP, ELECT 100-10V | ..C................. |
| C | 308 | 87-010-263-080 | CAP, ELECT 100-10V | ..C................. |
| C | 304 | 87-018-131-080 | CAP, CER 1000P-50V | ..C................. |

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| | | | | |
|---|---|---|---|---|
| C | 303 | 87-018-131-080 | CAP, CER 1000P-50V | ..C................. |
| C | 302 | 87-018-131-080 | CAP, CER 1000P-50V | ..C................. |
| C | 301 | 87-018-131-080 | CAP, CER 1000P-50V | ..C................. |
| C | 315 | 87-010-374-080 | CAP, ELECT 47-10V | ..C................. |
| C | 317 | 87-010-546-080 | CAP, ELECT 0.33-50V | ..C................. |
| C | 318 | 87-010-546-080 | CAP, ELECT 0.33-50V | ..C................. |
| C | 361 | 87-010-374-080 | CAP, ELECT 47-10V | ..C................. |
| C | 360 | 87-010-401-080 | CAP, ELECT 1-50V | ..C................. |
| C | 399 | 87-018-127-080 | CAP, CER 470P-50V | ..C................. |
| C | 401 | 87-010-544-080 | CAP, ELECT 0.1-50V | ..C................. |
| C | 402 | 87-010-544-080 | CAP, ELECT 0.1-50V | ..C................. |
| C | 403 | 87-018-118-080 | CAP,TC-U 82P-50 B | ..C................. |
| C | 404 | 87-018-118-080 | CAP,TC-U 82P-50 B | ..C................. |
| C | 412 | 87-010-405-080 | CAP, ELECT 10-50V | ..C................. |
| C | 411 | 87-010-405-080 | CAP, ELECT 10-50V | ..C................. |
| C | 452 | 87-010-382-080 | CAP, ELECT 22-25V | ..C................. |
| C | 459 | 87-018-128-080 | CAP, CERA-SOL SS 560P | ..C................. |
| C | 458 | 87-018-131-080 | CAP, CER 1000P-50V | ..C................. |
| C | 462 | 87-018-126-080 | CAP,TC-U 390P-50 B | ..C................. |
| C | 461 | 87-018-126-080 | CAP,TC-U 390P-50 B | ..C................. |
| CON | 301 | 87-099-827-010 | CONN,3P S2M-3W | ..C................. |
| CON | 351 | 87-099-832-010 | CONN,8P S2M-8W | ..C................. |
| D | 401 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................. |
| IC | 301 | 87-017-889-010 | IC,NJM4558LD | ..C................. |
| IC | 401 | 87-017-889-010 | IC,NJM4558LD | ..C................. |
| L | 451 | 87-007-342-010 | COIL,OSC 85K BIAS | ..C................. |
| Q | 306 | 87-026-218-080 | TR,DTC144ES (0.2W) | ..C................. |
| Q | 304 | 87-A30-090-080 | FET,2SK2541 | ..C................. |
| Q | 303 | 87-A30-090-080 | FET,2SK2541 | ..C................. |
| Q | 305 | 87-A30-091-080 | FET,2SJ460 | ..C................. |
| Q | 307 | 87-A30-091-080 | FET,2SJ460 | ..C................. |
| Q | 301 | 87-A30-091-080 | FET,2SJ460 | ..C................. |
| Q | 302 | 87-A30-091-080 | FET,2SJ460 | ..C................. |
| Q | 308 | 87-A30-091-080 | FET,2SJ460 | ..C................. |
| Q | 309 | 87-A30-197-080 | TR,KTA1267GR | ..C................. |
| Q | 310 | 87-A30-197-080 | TR,KTA1267GR | ..C................. |
| Q | 442 | 87-A30-197-080 | TR,KTA1267GR | ..C................. |
| Q | 443 | 87-A30-197-080 | TR,KTA1267GR | ..C................. |
| Q | 453 | 87-026-610-080 | TR,KTC3198GR | ..C................. |
| Q | 451 | 87-026-610-080 | TR,KTC3198GR | ..C................. |
| Q | 454 | 87-026-610-080 | TR,KTC3198GR | ..C................. |
| SFR | 452 | 87-A90-432-080 | SFR,30K H NVZ6TLTA | ..C................. |
| SFR | 451 | 87-A90-432-080 | SFR,30K H NVZ6TLTA | ..C................. |
| C | 601 | 87-018-195-080 | CAP, CER 1200P-16V | AB.................. |
| C | 602 | 87-018-195-080 | CAP, CER 1200P-16V | AB.................. |
| C | 617 | 87-010-260-080 | CAP, ELECT 47-25V | AB.................. |
| C | 616 | 87-010-260-080 | CAP, ELECT 47-25V | AB.................. |
| C | 611 | 87-010-545-080 | CAP, ELECT 0.22-50V | AB.................. |
| C | 613 | 87-010-545-080 | CAP, ELECT 0.22-50V | AB.................. |
| C | 614 | 87-010-545-080 | CAP, ELECT 0.22-50V | AB.................. |
| C | 612 | 87-010-545-080 | CAP, ELECT 0.22-50V | AB.................. |
| C | 615 | 87-018-104-080 | CAP,TC-U 10P-50 SL | AB.................. |
| CN | 602 | 87-099-194-010 | CONN,6P 6216V | AB.................. |
| CN | 601 | 87-099-719-010 | CONN,30P TYK-B(X) | AB.................. |
| D | 601 | 87-A40-466-080 | ZENER,MTZJ2.7A | AB.................. |
| D | 602 | 87-A40-466-080 | ZENER,MTZJ2.7A | AB.................. |
| FB | 601 | 87-008-372-080 | FILTER, EMI BL OIRNI | .................... |
| IC | 601 | 87-A20-715-010 | IC,M62439SP | AB.................. |
| J | 601 | 87-A60-425-010 | JACK,PIN 2P YKC21-3838 | AB.................. |
| C | 601 | 87-018-195-080 | CAP, CER 1200P-16V | ..C................. |
| C | 602 | 87-018-195-080 | CAP, CER 1200P-16V | ..C................. |
| C | 617 | 87-010-408-080 | CAP, ELECT 47-50V | ..C................. |
| C | 616 | 87-010-408-080 | CAP, ELECT 47-50V | ..C................. |
| C | 612 | 87-010-545-080 | CAP, ELECT 0.22-50V | ..C................. |
| C | 611 | 87-010-545-080 | CAP, ELECT 0.22-50V | ..C................. |
| C | 613 | 87-010-545-080 | CAP, ELECT 0.22-50V | ..C................. |
| C | 614 | 87-010-545-080 | CAP, ELECT 0.22-50V | ..C................. |
| C | 615 | 87-018-104-080 | CAP,TC-U 10P-50 SL | ..C................. |
| CON | 602 | 87-099-194-010 | CONN,6P 6216V | ..C................. |
| CON | 601 | 87-099-719-010 | CONN,30P TYK-B(X) | ..C................. |
| D | 601 | 87-A40-466-080 | ZENER,MTZJ2.7A | ..C................. |
| D | 602 | 87-A40-466-080 | ZENER,MTZJ2.7A | ..C................. |
| IC | 601 | 87-A20-715-010 | IC,M62439SP | ..C................. |
| J | 601 | 87-A60-425-010 | JACK,PIN 2P YKC21-3838 | ..C................. |
| C | 707 | 87-010-112-080 | CAP, ELECT 100-16V | AB.................. |
| C | 709 | 87-010-248-080 | CAP, ELECT 220-10V | AB.................. |
| C | 701 | 87-010-404-080 | CAP, ELECT 4.7-50V | AB.................. |
| C | 706 | 87-018-131-080 | CAP, CER 1000P-50V | AB.................. |
| C | 704 | 87-018-131-080 | CAP, CER 1000P-50V | AB.................. |
| C | 705 | 87-018-131-080 | CAP, CER 1000P-50V | AB.................. |
| C | 708 | 87-A11-144-080 | CAP,TC U 0.1-50 K B | AB.................. |
| C | 702 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | AB.................. |
| C | 703 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | AB.................. |
| C | 710 | 87-010-112-080 | CAP, ELECT 100-16V | AB.................. |
| C | 714 | 87-010-112-080 | CAP, ELECT 100-16V | AB.................. |
| C | 715 | 87-018-119-080 | CAP, CER 100P-50V | AB.................. |
| C | 713 | 87-018-149-080 | CAP,TC-U 15P-50 CH | AB.................. |
| C | 712 | 87-018-149-080 | CAP,TC-U 15P-50 CH | AB.................. |
| D | 701 | 87-017-931-080 | ZENER,MTZJ5.6B | AB.................. |
| D | 702 | 87-020-465-080 | DIODE,1SS133 (110MA) | .................... |
| IC | 701 | 87-070-127-110 | IC,LC72131 D | AB.................. |
| L | 701 | 87-005-847-080 | COIL,2.2UH(CECS) | AB.................. |

# ELECTRICAL MAIN PARTS LIST - 7/8

| | | | | |
|---|---|---|---|---|
| Q | 701 | 87-A30-196-080 | TR,2SC4115SRS | AB.................. |
| X | 701 | 87-A70-061-010 | VIB,XTAL 4.500MHZ CSA-309 | AB.................. |
| C | 707 | 87-010-112-080 | CAP, ELECT 100-16V | ..C................ |
| C | 709 | 87-010-248-080 | CAP, ELECT 220-10V | ..C................ |
| C | 701 | 87-010-404-080 | CAP, ELECT 4.7-50V | ..C................ |
| C | 704 | 87-018-131-080 | CAP, CER 1000P-50V | ..C................ |
| C | 705 | 87-018-131-080 | CAP, CER 1000P-50V | ..C................ |
| C | 706 | 87-018-131-080 | CAP, CER 1000P-50V | ..C................ |
| C | 702 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | ..C................ |
| C | 703 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | ..C................ |
| C | 714 | 87-010-112-080 | CAP, ELECT 100-16V | ..C................ |
| C | 710 | 87-010-112-080 | CAP, ELECT 100-16V | ..C................ |
| C | 715 | 87-018-119-080 | CAP, CER 100P-50V | ..C................ |
| C | 713 | 87-018-149-080 | CAP,TC-U 15P-50 CH | ..C................ |
| C | 712 | 87-018-149-080 | CAP,TC-U 15P-50 CH | ..C................ |
| D | 701 | 87-A40-234-080 | ZENER,MTZJ5.6A | ..C................ |
| IC | 701 | 87-070-127-110 | IC,LC72131 D | ..C................ |
| L | 701 | 87-005-847-080 | COIL,2.2UH(CECS) | ..C................ |
| Q | 701 | 87-A30-196-080 | TR,2SC4115SRS | ..C................ |
| X | 701 | 87-A70-061-010 | VIB,XTAL 4.500MHZ CSA-309 | ..C................ |
| C | 746 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | AB.................. |
| C | 758 | 87-010-112-080 | CAP, ELECT 100-16V | AB.................. |
| C | 753 | 87-010-408-080 | CAP, ELECT 47-50V | AB.................. |
| C | 752 | 87-018-143-080 | CAP,TC-U 4.7P-50 CH | .................... |
| C | 755 | 87-A11-144-080 | CAP,TC U 0.1-50 K B | AB.................. |
| C | 757 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | AB.................. |
| C | 759 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | AB.................. |
| C | 756 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | AB.................. |
| C | 762 | 87-010-400-080 | CAP, ELECT 0.47-50V | AB.................. |
| C | 763 | 87-010-401-080 | CAP, ELECT 1-50V | AB.................. |
| C | 764 | 87-010-401-080 | CAP, ELECT 1-50V | AB.................. |
| C | 769 | 87-010-403-080 | CAP, ELECT 3.3-50V | AB.................. |
| C | 761 | 87-010-404-080 | CAP, ELECT 4.7-50V | AB.................. |
| C | 766 | 87-010-407-080 | CAP, ELECT 33-50V | AB.................. |
| C | 765 | 87-018-115-080 | CAP, CER 47P-50V | AB.................. |
| C | 768 | 87-A11-147-080 | CAP,TC U 0.047-50 Z F | AB.................. |
| C | 774 | 87-010-405-080 | CAP, ELECT 10-50V | AB.................. |
| C | 771 | 87-010-406-080 | CAP, ELECT 22-50 | AB.................. |
| C | 773 | 87-018-131-080 | CAP, CER 1000P-50V | AB.................. |
| C | 773 | 87-018-195-080 | CAP, CER 1200P-16V | .................... |
| C | 773 | 87-018-196-080 | CAP, CER 1500P-16V | .................... |
| C | 776 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | AB.................. |
| C | 770 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | AB.................. |
| C | 789 | 87-010-403-080 | CAP, ELECT 3.3-50V | AB.................. |
| C | 786 | 87-010-405-080 | CAP, ELECT 10-50V | AB.................. |
| C | 785 | 87-010-405-080 | CAP, ELECT 10-50V | AB.................. |
| C | 787 | 87-018-196-080 | CAP, CER 1500P-16V | .................... |
| C | 788 | 87-018-196-080 | CAP, CER 1500P-16V | .................... |
| C | 784 | 87-018-199-080 | CAP, CER 3300P | AB.................. |
| C | 783 | 87-018-199-080 | CAP, CER 3300P | AB.................. |
| C | 784 | 87-018-202-080 | CAP.CERAM.6800PF | .................... |
| C | 783 | 87-018-202-080 | CAP.CERAM.6800PF | .................... |
| C | 788 | 87-A11-153-080 | CAP,TC U 2200P-16 Z F | AB.................. |
| C | 787 | 87-A11-153-080 | CAP,TC U 2200P-16 Z F | AB.................. |
| C | 790 | 87-010-403-080 | CAP, ELECT 3.3-50V | AB.................. |
| D | 752 | 87-020-465-080 | DIODE,1SS133 (110MA) | .................... |
| D | 751 | 87-020-465-080 | DIODE,1SS133 (110MA) | AB.................. |
| IC | 751 | 87-A20-913-010 | IC,LA1837NL | AB.................. |
| L | 771 | 87-A50-266-010 | COIL,FM DET-2N(TOK) | AB.................. |
| L | 772 | 87-A90-052-010 | FLTR,CFMT-450A(TOK) | .................... |
| L | 772 | 87-A90-733-010 | FLTR,PCFAZH-450 (TOK) | AB.................. |
| X | 751 | 87-030-354-010 | VIB,CF BFU 450C | .................... |
| C | 746 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | ..C................ |
| C | 758 | 87-010-112-080 | CAP, ELECT 100-16V | ..C................ |
| C | 753 | 87-010-408-080 | CAP, ELECT 47-50V | ..C................ |
| C | 756 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | ..C................ |
| C | 759 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | ..C................ |
| C | 757 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | ..C................ |
| C | 762 | 87-010-400-080 | CAP, ELECT 0.47-50V | ..C................ |
| C | 763 | 87-010-401-080 | CAP, ELECT 1-50V | ..C................ |
| C | 764 | 87-010-401-080 | CAP, ELECT 1-50V | ..C................ |
| C | 769 | 87-010-403-080 | CAP, ELECT 3.3-50V | ..C................ |
| C | 761 | 87-010-404-080 | CAP, ELECT 4.7-50V | ..C................ |
| C | 766 | 87-010-407-080 | CAP, ELECT 33-50V | ..C................ |
| C | 765 | 87-018-115-080 | CAP, CER 47P-50V | ..C................ |
| C | 768 | 87-A11-147-080 | CAP,TC U 0.047-50 Z F | ..C................ |
| C | 774 | 87-010-405-080 | CAP, ELECT 10-50V | ..C................ |
| C | 771 | 87-010-406-080 | CAP, ELECT 22-50 | ..C................ |
| C | 773 | 87-018-131-080 | CAP, CER 1000P-50V | ..C................ |
| C | 770 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | ..C................ |
| C | 789 | 87-010-403-080 | CAP, ELECT 3.3-50V | ..C................ |
| C | 786 | 87-010-405-080 | CAP, ELECT 10-50V | ..C................ |
| C | 785 | 87-010-405-080 | CAP, ELECT 10-50V | ..C................ |
| C | 783 | 87-018-199-080 | CAP, CER 3300P | ..C................ |
| C | 784 | 87-018-199-080 | CAP, CER 3300P | ..C................ |
| C | 787 | 87-A11-153-080 | CAP,TC U 2200P-16 Z F | ..C................ |
| C | 788 | 87-A11-153-080 | CAP,TC U 2200P-16 Z F | ..C................ |
| C | 790 | 87-010-403-080 | CAP, ELECT 3.3-50V | ..C................ |
| D | 751 | 87-020-465-080 | DIODE,1SS133 (110MA) | ..C................ |
| IC | 751 | 87-A20-913-010 | IC,LA1837NL | ..C................ |
| L | 771 | 87-A50-266-010 | COIL,FM DET-2N(TOK) | ..C................ |
| L | 772 | 87-A90-733-010 | FLTR,PCFAZH-450 (TOK) | ..C................ |

# ELECTRICAL MAIN PARTS LIST - 8/8

| | | | | |
|---|---|---|---|---|
| C | 856 | 87-010-405-080 | CAP, ELECT 10-50V | .................... |
| C | 855 | 87-010-405-080 | CAP, ELECT 10-50V | .................... |
| C | 859 | 87-018-109-080 | CAP, CER 22P-50V | .................... |
| C | 858 | 87-018-109-080 | CAP, CER 22P-50V | .................... |
| C | 851 | 87-018-123-080 | CAP, CER 220P-50V | .................... |
| C | 852 | 87-018-123-080 | CAP, CER 220P-50V | .................... |
| C | 853 | 87-018-127-080 | CAP, CER 470P-50V | .................... |
| C | 854 | 87-A11-144-080 | CAP,TC U 0.1-50 K B | .................... |
| C | 857 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 860 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| IC | 851 | 87-A20-502-010 | IC,BU1920 | .................... |
| L | 851 | 87-005-847-080 | COIL,2.2UH(CECS) | .................... |
| Q | 851 | 87-026-610-080 | TR,KTC3198GR | .................... |
| X | 851 | 87-A70-091-010 | VIB,XTAL 4.332MHZ CSA-309 | .................... |
| C | 805 | 87-A11-144-080 | CAP,TC U 0.1-50 K B | AB.................. |
| C | 807 | 87-A11-144-080 | CAP,TC U 0.1-50 K B | AB.................. |
| C | 808 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | AB.................. |
| C | 809 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 802 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 803 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 801 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 804 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 812 | 87-010-408-080 | CAP, ELECT 47-50V | .................... |
| C | 813 | 87-018-131-080 | CAP, CER 1000P-50V | AB.................. |
| C | 810 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 811 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 901 | 87-A11-148-080 | CAP,TC U 0.1-50 Z F | AB.................. |
| C | 924 | 87-014-049-080 | CAP,PP 470P-100 J | .................... |
| C | 922 | 87-018-099-080 | CAP CERA 3.9P-50 | .................... |
| C | 923 | 87-018-102-080 | CAP,TC-U 6.8P-50 SL | .................... |
| C | 921 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 931 | 87-010-263-080 | CAP, ELECT 100-10V | .................... |
| C | 932 | 87-010-400-080 | CAP, ELECT 0.47-50V | .................... |
| C | 939 | 87-014-073-080 | CAP,PP 4700P-100 J | .................... |
| C | 938 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 935 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 936 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 934 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 937 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | .................... |
| C | 940 | 87-014-051-080 | CAPACITOR (PP), 560P | .................... |
| C | 944 | 87-018-104-080 | CAP,TC-U 10P-50 SL | AB.................. |
| C | 941 | 87-018-109-080 | CAP, CER 22P-50V | .................... |
| C | 943 | 87-A11-144-080 | CAP,TC U 0.1-50 K B | AB.................. |
| CF | 802 | 82-785-747-010 | CF MS2 GHY R | .................... |
| CF | 801 | 87-008-261-010 | FILTER, SFE10.7MA5-A | AB.................. |
| CF | 801 | 87-008-423-010 | CERAMIC FILTER, SFE10.7 | .................... |
| D | 923 | 87-020-465-080 | DIODE,1SS133 (110MA) | .................... |
| D | 921 | 87-020-465-080 | DIODE,1SS133 (110MA) | .................... |
| D | 922 | 87-020-465-080 | DIODE,1SS133 (110MA) | .................... |
| D | 941 | 87-020-465-080 | DIODE,1SS133 (110MA) | .................... |
| FFE | 801 | A8-6ZA-19C-170 | 6ZA-1 YFEENC | .................... |
| FFE | 801 | A8-8ZA-190-030 | 8ZA-1 FEUNM | AB.................. |
| FFE | 801 | A8-8ZA-191-030 | 8ZA-1 YFEUNM | .................... |
| J | 801 | 87-A60-202-010 | TERMINAL,ANT 4P MSP-154V-02 | AB.................. |
| J | 802 | 87-A60-403-010 | TERMINAL,ANT PAL 2P HSP-312V05 | .................... |
| J | 931 | 81-754-629-010 | CONNECTOR, 2P | .................... |
| L | 801 | 87-005-847-080 | COIL,2.2UH(CECS) | AB.................. |
| L | 934 | 87-005-372-080 | COIL S 1MHM | .................... |
| L | 933 | 87-A50-159-010 | COIL,10MH K C2B | .................... |
| L | 942 | 87-A50-019-010 | COIL,OSC LW(COI) | .................... |
| L | 941 | 87-A50-020-010 | COIL,ANT LW(COI) | .................... |
| L | 941 | 87-A50-022-010 | COIL,ANT SW(COI) | .................... |
| L | 942 | 87-A50-173-010 | COIL,OSC SW-N(COI) | .................... |
| L | 981 | 87-NF4-650-010 | COIL,AM PACK 4N(TOK) | AB.................. |
| L | 981 | 87-NF4-651-110 | COIL,AM PACK2N(TOM) | .................... |
| L | 981 | 88-NF8-625-010 | COIL,AM PACK3N(TOK) | .................... |
| Q | 801 | 87-026-214-080 | TR,DTA114YS (0.3W) | AB.................. |
| Q | 802 | 87-026-214-080 | TR,DTA114YS (0.3W) | .................... |
| Q | 803 | 89-305-352-380 | TR,2SC535(B/C) | .................... |
| Q | 941 | 87-026-269-080 | TR,DTA114ES | .................... |
| Q | 940 | 87-026-269-080 | TR,DTA114ES | .................... |
| Q | 942 | 87-A30-164-080 | TR,CSC2001K | .................... |
| TC | 941 | 87-011-220-080 | TRIMMER CAP 20P VTC | .................... |
| TC | 943 | 87-011-221-080 | CAP, TRIMMER 30P | .................... |
| TC | 942 | 87-011-221-080 | CAP, TRIMMER 30P | .................... |
| C | 808 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | ..C................. |
| C | 804 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | ..C................. |
| C | 803 | 87-A11-155-080 | CAP,TC U 0.01-16 Z F | ..C................. |
| C | 813 | 87-018-131-080 | CAP, CER 1000P-50V | ..C................. |
| C | 944 | 87-018-147-080 | CAP,TC-U 10P-50 CH | ..C................. |
| CF | 801 | 87-008-261-010 | FILTER, SFE10.7MA5-A | ..C................. |
| FFE | 801 | A8-8ZA-190-030 | 8ZA-1 FEUNM | ..C................. |
| J | 801 | 87-A60-202-010 | TERMINAL,ANT 4P MSP-154V-02 | ..C................. |
| L | 801 | 87-005-847-080 | COIL,2.2UH(CECS) | ..C................. |
| L | 981 | 87-NF4-650-010 | COIL,AM PACK 4N(TOK) | ..C................. |
| Q | 801 | 87-026-214-080 | TR,DTA114YS (0.3W) | ..C................. |
| FC | 101 | 87-033-147-010 | FUSE CLAMP | A.C................. |
| FC | 102 | 87-033-147-010 | FUSE CLAMP | A.C................. |
| SW | 101 | 87-A90-165-010 | SW,SL 1-2-3 SWS2301 | A.C................. |
| T | 101 | 87-A60-317-010 | TERMINAL, 1P MSC | A.C................. |
| T | 102 | 87-A60-317-010 | TERMINAL, 1P MSC | A.C................. |

# MECHANICAL PARTS LIST - 1/1

NOTE: The characters in the suffix column indicate the part usage.

LH(Lo) .................XX..................................A...................
U ......................XX...................................B..................
LH(Hi) .................XX....................................C.................

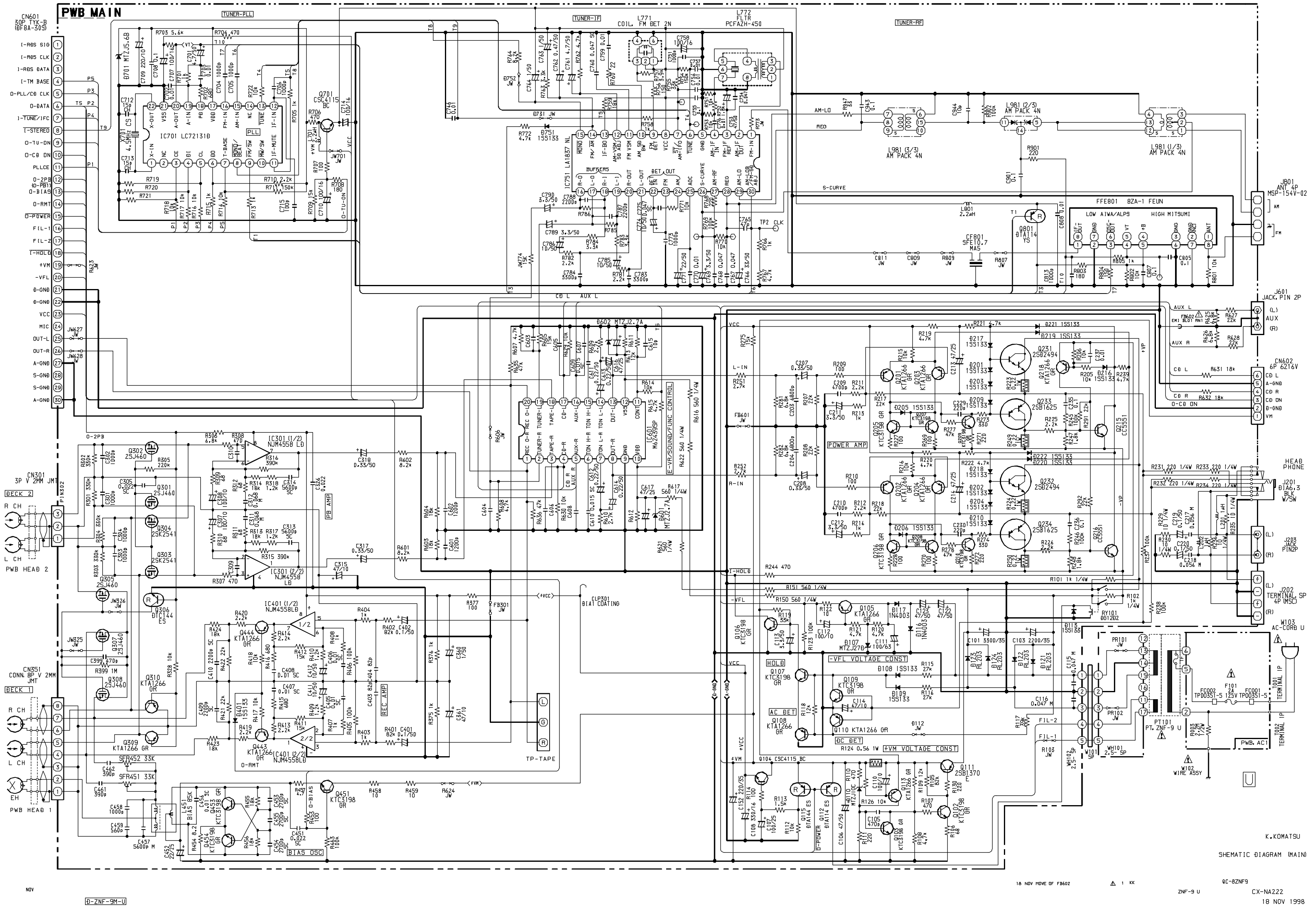
| REF.NO | PARTS NO. | kanri NO. | DESCRIPTION | SUFFIX |
|---|---|---|---|---|
| | 82-NE6-067-010 | | BADGE,AIWA 30N | ABC................. |
| | 8Z-NF9-002-010 | | PANEL,TRAY H | ABC................. |
| | 8Z-NF9-003-010 | | BOX,CASS 1 1WAY | ABC................. |
| | 8Z-NF9-004-010 | | BOX,CASS 2 | ABC................. |
| | 8Z-NF9-021-010 | | CABI,REAR USTM | .B.................. |
| | 8Z-NF9-022-010 | | CABI,REAR LHSTM | A................... |
| | 8Z-NF9-028-010 | | CABI,REAR LHSTM S333 | ..C................. |
| | 8Z-NF9-029-010 | | CABI,REAR EZSTE S333 | .................... |
| | 8Z-NF9-030-010 | | CABI,REAR HRJSTM S333 | .................... |
| | 8Z-NF9-031-010 | | CABI,FR U | ABC................. |
| | 8Z-NF9-032-010 | | BOX,CASS 1R | .................... |
| | 8Z-NF9-042-010 | | PANEL,TOP V-2 | ABC................. |
| | 8Z-NF9-043-010 | | PANEL,RIGHT S V-2 | ABC................. |
| | 8Z-NF9-065-010 | | CABI,REAR USTN | .................... |
| | 8Z-NF9-066-010 | | CABI,REAR LHSTN | .................... |
| | 8Z-NF9-067-010 | | CABI,REAR USTFD | .................... |
| | 8Z-NF9-068-010 | | CABI,REAR EZSTE S223 | .................... |
| | 8Z-NF9-069-010 | | CABI,REAR EZSTE | .................... |
| | 8Z-NF9-070-010 | | CABI,REAR KSTE | .................... |
| | 88-NF9-056-010 | | KNOB,RTRY MIC | .................... |
| | 8Z-NF9-009-010 | | KNOB,RTRY VOL | ABC................. |
| | 8Z-NF9-010-010 | | KNOB,RTRY JOG | ABC................. |
| | 8Z-NF9-012-010 | | KEY,FUN | ABC................. |
| | 8Z-NF9-013-010 | | KEY,ASSY OPE 1W | ABC................. |
| | 8Z-NF9-016-010 | | KEY,CD | ABC................. |
| | 8Z-NF9-017-010 | | KEY,GEQ | ABC................. |
| | 8Z-NF9-033-010 | | KEY,ASSY OPE R | .................... |
| | 8Z-NF9-034-010 | | KEY,OPE R | .................... |
| | 8Z-NF9-035-010 | | REFLECTOR,OPE R | .................... |
| | 86-NFZ-001-010 | | WINDOW,TOP | ABC................. |
| | 8Z-NF9-005-010 | | WINDOW,CD | ABC................. |
| | 8Z-NF9-006-010 | | WINDOW,DISP H | A................... |
| | 8Z-NF9-007-010 | | WINDOW,CASS 1 | ABC................. |
| | 8Z-NF9-008-010 | | WINDOW,CASS 2 | ABC................. |
| | 8Z-NF9-039-010 | | WINDOW,DISP U | .B.................. |
| | 8Z-NF9-062-010 | | WINDOW,DISP H S333 | ..C................. |
| | 84-ZG1-245-210 | | CAP,OPTICAL | ABC................. |
| | 82-NF5-218-010 | | SPR-T,EJECT 1 (SIN) | ABC................. |
| | 82-NF5-219-010 | | SPR-T,EJECT 2 (SIN) | ABC................. |
| | 82-NF5-229-010 | | PLATE,LOCK | ABC................. |
| | 86-NF9-224-010 | | SPR-C,LOCK | ABC................. |
| | 87-NF4-216-010 | | HLDR,LOCK 1 | ABC................. |
| | 87-NF4-217-010 | | HLDR,LOCK 2 | ABC................. |
| | 87-NF4-221-010 | | HLDR,CABLE | ABC................. |
| | 87-NF8-220-010 | | DMPR,150 | ABC................. |
| | 88-NF5-208-010 | | HLDR,PWB-M N | ABC................. |
| | 8Z-NB8-240-010 | | COVER, PL | ABC................. |
| | 87-067-641-010 | | UTT2+3-8(W/O SLOT)BL | ABC................. |
| | 87-067-688-010 | | BVTT+3-6 | ABC................. |
| | 87-067-703-010 | | TAPPING SCREW, BVT2+3-10 | ABC................. |
| | 87-067-975-010 | | S-SCREW,IT+4-8 | ABC................. |
| | 87-721-097-410 | | QT2+3-12 GLD | ABC................. |
| | 87-723-096-410 | | QT2+3-10W/O SLOT BL | ABC................. |
| | 87-NF4-224-010 | | S-SCREW,IT3B+3-8 CU | ABC................. |
| | 87-050-034-010 | | AC CORD ASSY,E | .................... |
| | 87-050-079-010 | | AC-CORD ASSY,E | A.C................. |
| | 87-085-185-010 | | BUSHING, AC CORD (E) | A.C................. |
| | 87-085-189-010 | | BUSHING, CORD (U) | .B.................. |
| | 87-099-811-010 | | PLUG,ADPTR CONV(K) | .................... |
| | 87-A80-110-010 | | AC CORD ASSY,U SPT-2W | .B.................. |
| | 88-906-251-110 | | FF-CABLE,6P 1.25 | ABC................. |
| | 88-911-201-110 | | FF-CABLE,11P 1.25 | ABC................. |
| | 88-913-221-110 | | FF-CABLE, 13P 1.25 220MM | ABC................. |
| C 814 | 87-A11-155-080 | | CAP,TC U 0.01-16 Z F | .................... |
| F 101 | 87-035-139-010 | | FUSE, 2.5A T 250V | ..C................. |
| F 101 | 87-035-219-010 | | FUSE, 500MA'T' | .................... |
| F 101 | 87-035-222-010 | | FUSE, 1AT | .................... |
| F 101 | 87-035-224-010 | | FUSE, 1.6AT | A................... |
| F 101 | 87-035-485-010 | | FUSE,2A 125V D UL | .B.................. |
| PT 101 | 88-NF8-605-010 | | PT,8NF-8LH | ..C................. |
| PT 101 | 88-NF9-608-010 | | PT,8NF9-EKZ | .................... |
| PT 101 | 88-NF9-610-010 | | PT,8NF-9 HI-HR | .................... |
| PT 101 | 88-NF9-611-010 | | PT,8NF-9 HI-LH | A................... |
| PT 101 | 8Z-NF9-620-010 | | PT,ZNF-9 U | .B.................. |
| PT 101 | 8Z-NF9-622-010 | | PT,ZNF-9 EZ-HI | .................... |
| | 82-NF7-210-110 | | GUIDE,FL (*) | ABC................. |
| WH 101 | 87-A90-459-010 | | HLDR,WIRE 2.5-5P | AB.................. |
| WH 101 | 87-A90-460-010 | | HLDR,WIRE 2.5-7P | ..C................. |
| W 101 | 83-NE2-618-110 | | F-CABEL,5P-2.5 | AB.................. |
| WH 102 | 87-A90-459-010 | | HLDR,WIRE 2.5-5P | AB.................. |
| W 101 | 85-NF5-628-010 | | F-CABLE 7P-2.5 | ..C................. |
| WH 102 | 87-A90-460-010 | | HLDR,WIRE 2.5-7P | ..C................. |
| | 87-067-703-010 | | TAPPING SCREW, BVT2+3-10 | AB.................. |
| | 87-067-703-010 | | TAPPING SCREW, BVT2+3-10 | ..C................. |

# ACCESSORIES / PACKAGE LIST - 1/1

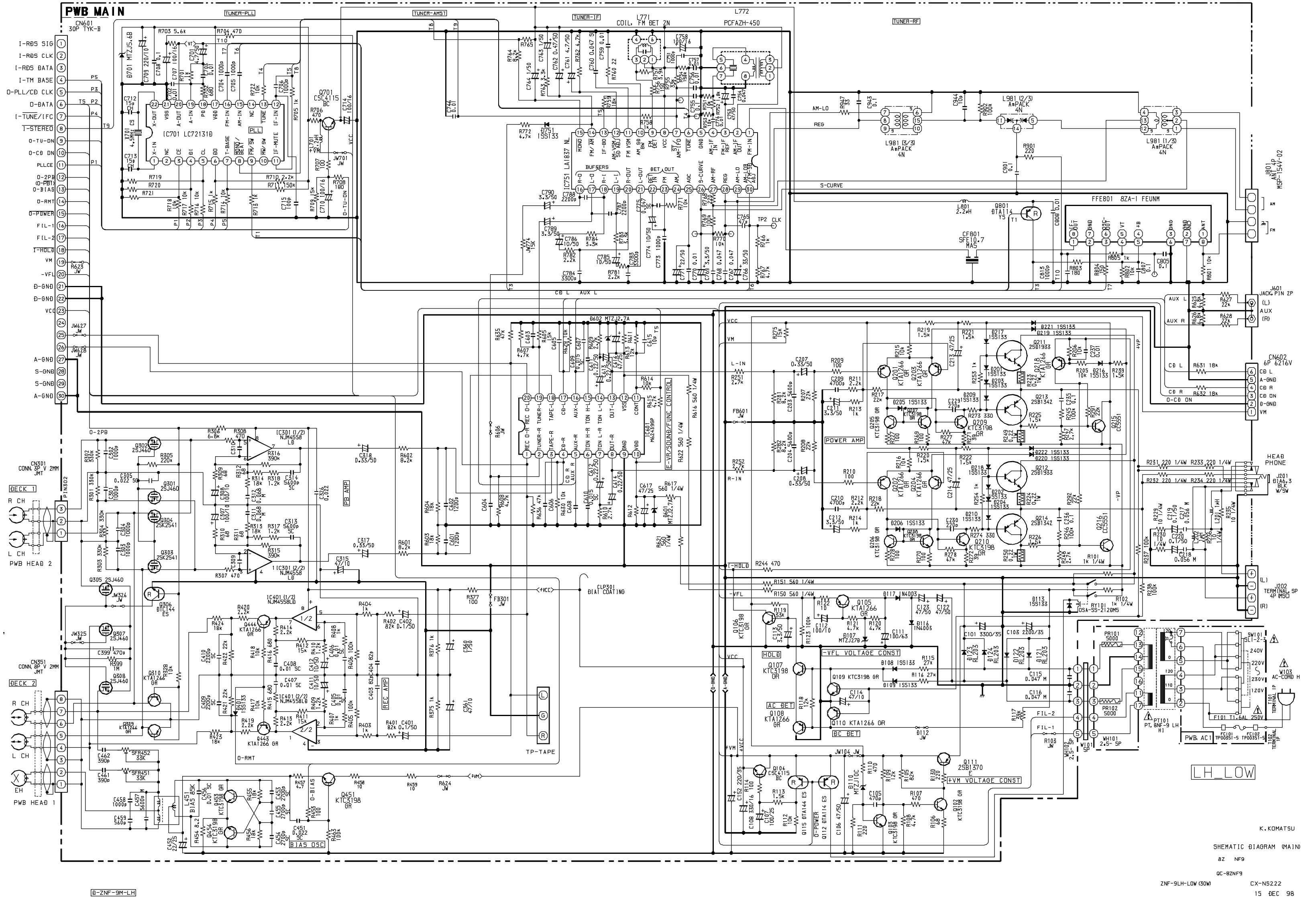
NOTE: The characters in the suffix column indicate the part usage.

| REF.NO | PARTS NO. | KANRI NO. | DESCRIPTION | SUFFIX |
|---|---|---|---|---|
| | 8Z-NF9-902-010 | | IB,LH(ESP)M | A................... |
| | 8Z-NF9-903-010 | | IB,U(ESF)M | .B.................. |
| | 8Z-NF9-905-010 | | IB,K(E)E | .................... |
| | 8Z-NF9-906-010 | | IB,EZ(9L)E | .................... |
| | 8Z-NF9-912-010 | | IB,LH(ESP)M -333 | ..C................. |
| | 8Z-NF9-916-010 | | IB,EZ(9L)E -223 | .................... |
| | 8Z-NF9-926-010 | | IB,EZ(9L)E -333 | .................... |
| | 87-006-268-010 | | AM-LOOP ANT NC (UN) | .................... |
| | 87-043-095-010 | | WIRE ANTENNA | .................... |
| | 87-043-106-010 | | WIRE, FM ANT (Z) | .................... |
| | 87-043-115-010 | | ANT,FEEDER FM | ABC................. |
| | 87-A91-017-010 | | PLUG,CONVERSION JT-0476 | A.C................. |
| | 8Z-NF8-701-010 | | RC UNIT,RC-ZAS01 | .................... |
| | 8Z-NF9-701-010 | | RC UNIT,ZAS02 | ABC................. |
| ANT 0 | 87-006-225-010 | | AM LOOP ANT NC2 | ABC................. |
| ANT 0 | 87-006-269-010 | | AM LOOP ANT (UN) | .................... |

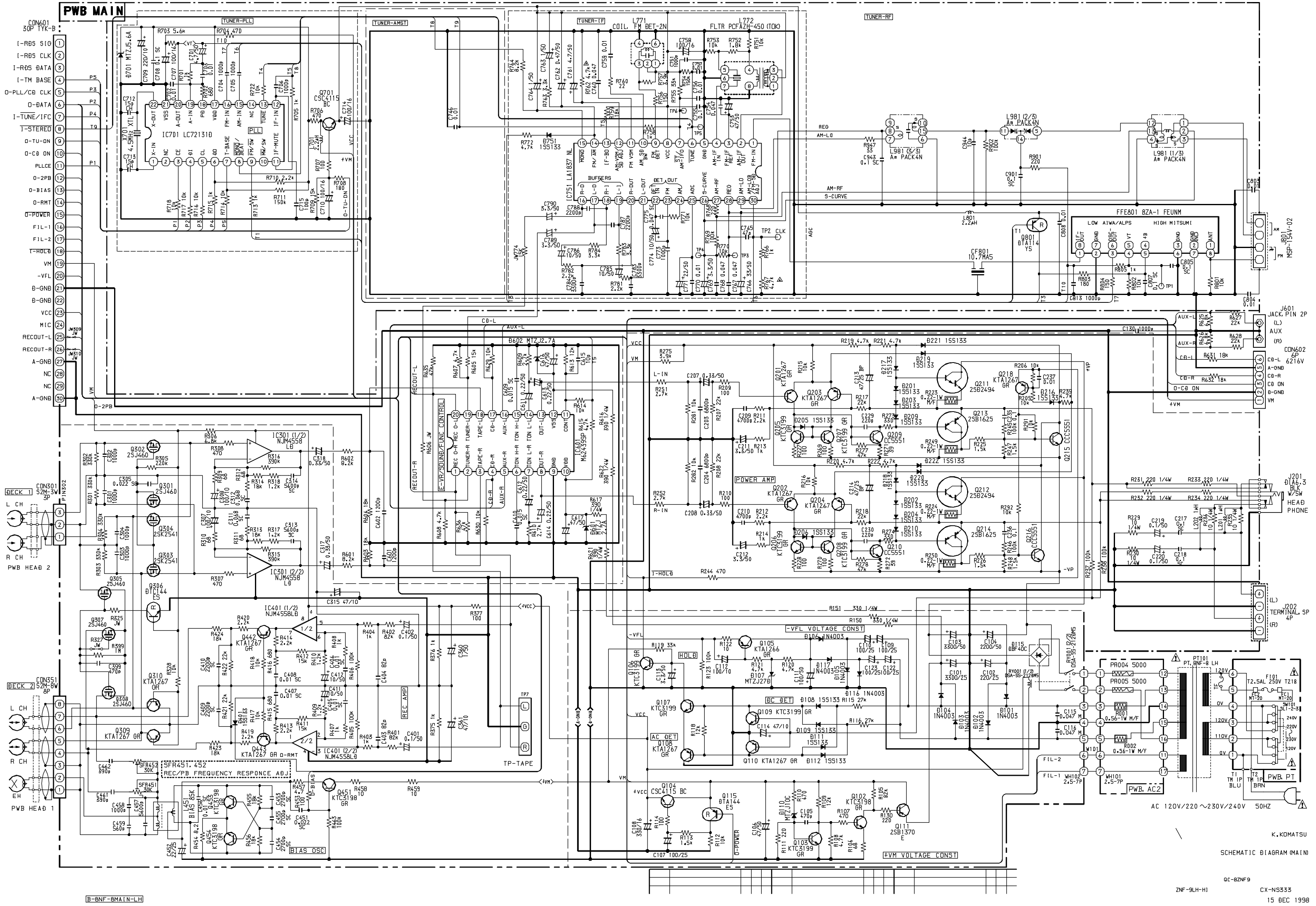
# SCHEMATIC DIAGRAM – 1 (MAIN : U)


PWB MAIN
TUNER-PLL
TUNER-IF
TUNER-RF
CN601 30P TYK-B (DF8A-30S)
I-RDS SIG
I-RDS CLK
I-RDS DATA
I-TM BASE
O-PLL/CD CLK
O-DATA
I-TUNE/IFC
I-STEREO
O-TU-ON
O-CD ON
PLLCE
O-2PB
O-BIAS
O-RMT
O-POWER
FIL-1
FIL-2
I-HOLD
+VM
-VFL
D-GND
VCC
MIC
OUT-L
OUT-R
A-GND
S-GND
IC701 LC72131D
Q701 CSC4115 BC
L771 COIL, FM BET 2N
L772 FLTR PCFAZH-450
IC751 LA1837 NL
BUFFERS
BET OUT
L981 (2/3) AM PACK 4N
L981 (3/3) AM PACK 4N
L981 (1/3) AM PACK 4N
FFE801 BZA-1 FEUN
LOW AIWA/ALPS
HIGH MITSUMI
Q801 DTA114 YS
CF801 SFE10.7 MA5
J801 ANT 4P MSP-154V-02
AM
FM
S-CURVE
J601 JACK, PIN 2P
AUX
CN602 6P 6216V
CD L
A-GND
CD R
CD ON
D-GND
VM
D602 MTZJ2.7A
IC601 M62499SP
E-VR/SOUND/FUNC CONTROL
POWER AMP
Q231 2SB2494
Q233 2SB1625
Q232 2SB2494
Q234 2SB1625
HEAD PHONE
J201 BIAS.3 BLK W/SW
J203 JACK PIN2P
J202 TERMINAL SP 4P (MSC)
W103 AC-CORD U
RY101 G01202
PT101 PT.ZNF-9 U
PWB AC1
T001 TERMINAL IP
T002 TERMINAL IP
W102 WIRE ASSY
F101 2A 125V
FC002 TPD03S1-5
FC001 TPD03S1-5
-VFL VOLTAGE CONST
HOLD
AC DET
DC DET
+VM VOLTAGE CONST
Q104 CSC4115 BC
Q111 2SB1370
CN301 3P V 2MM JMT
DECK 2
R CH
L CH
PWB HEAD 2
IC301 (1/2) NJM4558 LD
IC301 (2/2) NJM4558 LD
PB AMP
Q302 2SJ460
Q301 2SJ460
Q304 2SK2541
Q303 2SK2541
Q305 2SJ460
Q306 DTC144 ES
CN351 CONN, 8P V 2MM JMT
DECK 1
EH
PWB HEAD 1
IC401 (1/2) NJM4558LD
IC401 (2/2) NJM4558LD
REC AMP
Q444 KTA1266 GR
Q443 KTA1266 GR
O-RMT
Q451 KTC3198 GR
BIAS OSC
TP-TAPE
CLP301 BIAS COATING
U
K.KOMATSU
SHEMATIC DIAGRAM (MAIN)
18 NOV MOVE OF FB602
8C-8ZNF9
ZNF-9 U
CX-NA222
18 NOV 1998
NOV
8-ZNF-9M-U

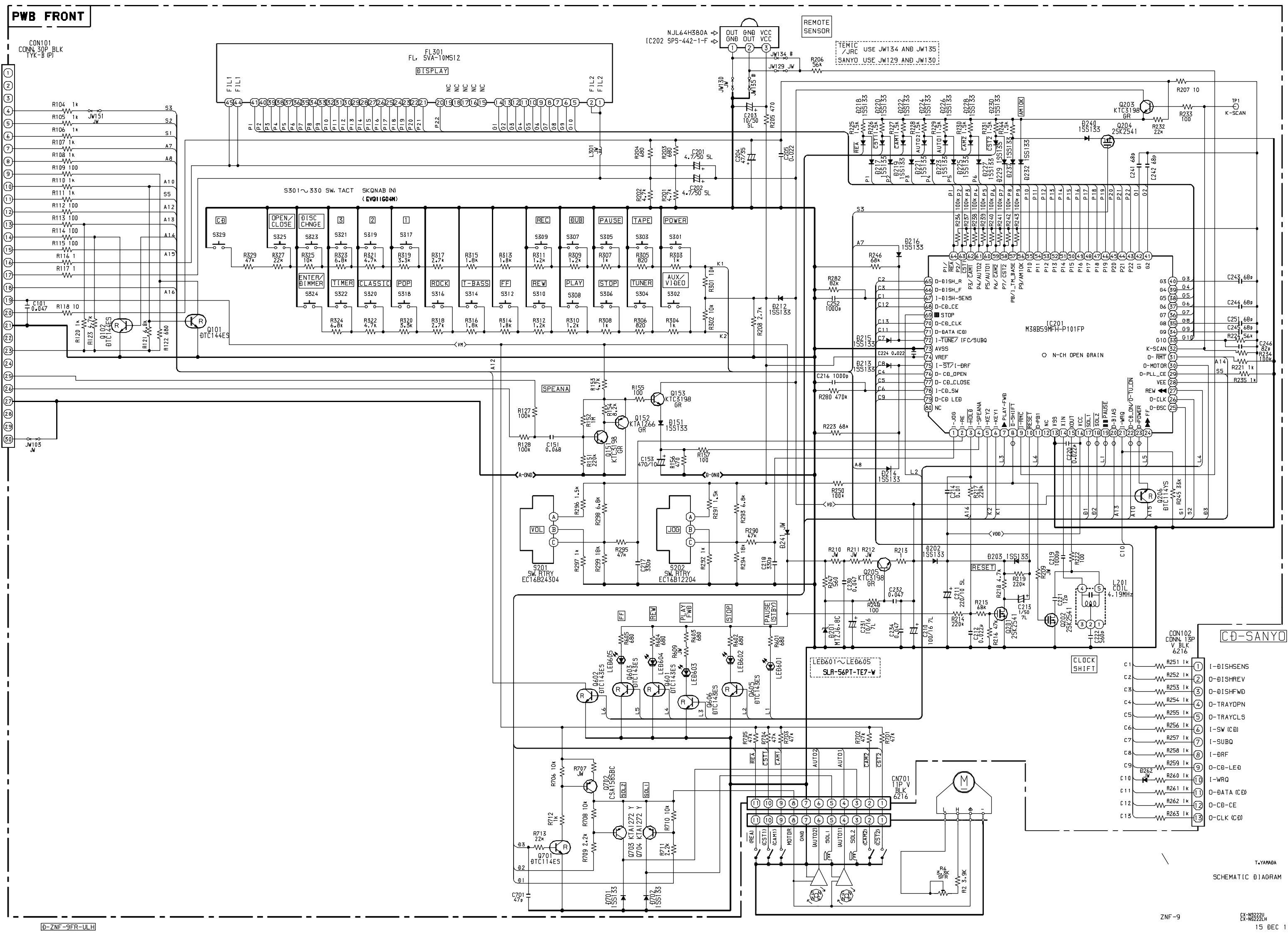
# SCHEMATIC  DIAGRAM – 1 (MAIN : 2LH)


PWB MAIN
TUNER-PLL
TUNER-AMST
TUNER-IF
TUNER-RF
CN601 30P TYK-B
I-RDS SIG
I-RDS CLK
I-RDS DATA
I-TM BASE
O-PLL/CD CLK
O-DATA
I-TUNE/IFC
I-STEREO
O-TU-DN
O-CD DN
PLLCE
O-2PB
O-PBI
O-BIAS
O-RMT
O-POWER
FIL-1
FIL-2
I-HOLD
VM
-VFL
D-GND
VCC
A-GND
S-GND
IC701 LC72131D
Q701 C5C4115 BC
PLL
L771 COIL, FM DET 2N
L772 PCFAZH-450
IC751 LA1837 NL
BUFFERS
DET OUT
S-CURVE
AM-LO
REG
L981 (2/3) AM PACK 4N
L981 (3/3) AM PACK 4N
L981 (1/3) AM PACK 4N
J801 ANT 4P MSP-154V-02
AM
FM
FFE801 8ZA-1 FEUNM
L801 2.2μH
Q801 DTA114 YS
CF801 SFE10.7 MA5
TP2 CLK
J601 JACK PIN 2P AUX (L) (R)
CN602 6P 6216V
CD L
A-GND
CD R
CD DN
D-GND
VM
D602 MTZJ2.7A
IC601 M62439FP
E-VR/SOUND/FUNC CONTROL
POWER AMP
Q211 2SD1933
Q213 2SB1342
Q215 C5551
Q212 2SD1933
Q214 2SB1342
Q216 C5551
HEAD PHONE
J201 DIA6.3 BLK W/SW
J202 TERMINAL SP 4P (MSC)
RY101 OSA-SS-212DM5
CN301 CONN. 8P V 2MM JMT
DECK 1
R CH
L CH
PWB HEAD 2
PIN302
IC301 (1/2) NJM4558 LD
IC301 (2/2) NJM4558 LD
PB AMP
CLP301 DIA1 COATING
IC401 (1/2) NJM4558LD
IC401 (2/2) NJM4558LD
REC AMP
CN351 CONN. 8P V 2MM JMT
DECK 2
EH
PWB HEAD 1
L451 BIAS 85K
BIAS OSC
O-RMT
TP-TAPE
HOLD
-VFL VOLTAGE CONST
AC DET
DC DET
+VM VOLTAGE CONST
Q111 2SB1370
PWB AC1
PT101 PT, 8NF-9 LH H1
WH101 2.5- 5P
SW101 SL1-2-3
240V
220V
230V
120V
W103 AC-CORD H
F101 T1.6AL 250V
TC101 TPD0351-5
TC102 TPD0351-5
LH_LOW
K.KOMATSU
SHEMATIC DIAGRAM (MAIN)
8Z NF9
QC-8ZNF9
ZNF-9LH-LOW (30W)
CX-NS222
15 DEC 98
B-ZNF-9M-LH

# SCHEMATIC DIAGRAM – 1 (MAIN : 3LH)


PWB MAIN
CON601 30P TYK-B
TUNER-PLL
TUNER-AMST
TUNER-IF
TUNER-RF
IC701 LC72131D
IC751 LA1837 NL
L771 COIL FM DET-2N
L772 FLTR PCFAZH-450 (TOK)
FFE801 BZA-1 FEUNM
LOW AIWA/ALPS
HIGH MITSUMI
J801 MSP-154V-02
J601 JACK PIN 2P
AUX
CON602 6P 6216V
POWER AMP
J201 DIA6.3 BLK W/SW
HEAD PHONE
J202 TERMINAL SP 4P
IC601 M62439SP
E-VR/SOUND/FUNC CONTROL
IC301 (1/2) NJM4558
IC301 (2/2) NJM4558
IC401 (1/2) NJM4558LD
IC401 (2/2) NJM4558LD
REC AMP
BIAS OSC
TP-TAPE
SFR451, 452 REC/PB FREQUENCY RESPONCE ADJ
DECK 1
CON301 52M-3W 5P
PWB HEAD 2
DECK 2
CON351 52M-8W 8P
PWB HEAD 1
-VFL VOLTAGE CONST
HOLD
DC DET
AC DET
+VM VOLTAGE CONST
PWB AC2
PWB PT
PT101 PT, 8NF-8 LH
AC 120V/220～230V/240V 50HZ
K.KOMATSU
SCHEMATIC DIAGRAM (MAIN)
QC-8ZNF9
ZNF-9LH-HI
CX-NS333
15 DEC 1998
B-8NF-8MAIN-LH

SCHEMATIC DIAGRAM – 1 (FRONT : U,2LH,3LH)


PWB FRONT
CON101 CONN 30P BLK TYK-B (P)
FL301 FL 5VA-10MS12
DISPLAY
NJL44H380A IC202 SPS-442-1-F
REMOTE SENSOR
TEMIC /JRC USE JW134 AND JW135
SANYO USE JW129 AND JW130
S301~330 SW, TACT SKQNAB (N) (EVQ11G04M)
CD
OPEN/CLOSE
DISC CHNGE
ENTER/DIMMER
TIMER
CLASSIC
POP
ROCK
T-BASS
FF
REW
PLAY
STOP
TUNER
AUX/VIDEO
REC
DUB
PAUSE
TAPE
POWER
IC201 M38B59MFH-P101FP
N-CH OPEN DRAIN
SPEANA
Q101 DTC144ES
Q102 DTC144ES
S201 SW, RTRY EC16B24304
S202 SW, RTRY EC16B12204
VOL
JOG
RESET
L201 COIL 4.19MHz
LED601~LED605 SLR-56PT-TE7-W
CLOCK SHIFT
CON102 CONN 13P V BLK 6216
CD-SANYO
CN701 11P V BLK 6216
Q701 DTC114ES
Q702 CSA1585BC
Q703 KTA1272 Y
Q704 KTA1272 Y
T.YAMADA
SCHEMATIC DIAGRAM (FR)
ZNF-9
CX-NS222U
CX-NS222LH
15 DEC 1998
D-ZNF-9FR-ULH

| サービス技術ニュース | |
|---|---|
| 番号 | 連絡内容 |
| G－　　－ | |
| G－　　－ | |
| G－　　－ | |

**アイワ株式会社**
**AIWA CO.,LTD.**

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Tokyo Japan

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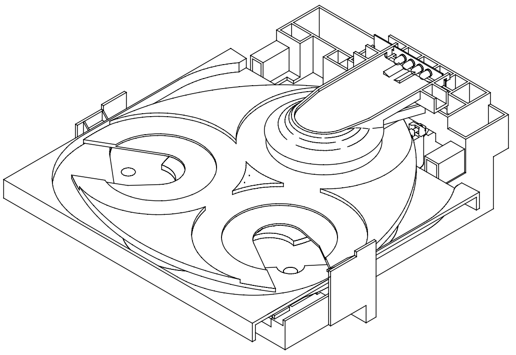
aiwa

aiwa SERVICE

# 4ZG-1



## CD MECHANISM

• BASIC CD MECHANISM:3ZG-2 E1

• TYPE: English

| BASIC NAME | DERIVATION NAME | | | | | |
|---|---|---|---|---|---|---|
| 4ZG-1 | V | O | S1 | D | SH | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

■ This Service Manual has various derivation.Derivation name is indicated by the Service Manual for each model.

SERVICE MANUAL

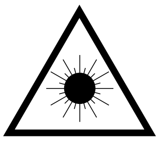
S/M Code No. 09-985-249-80T

# PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

**WARNING!**

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

**VAROITUS!**

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

**VARNING!**

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

**CAUTION**

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

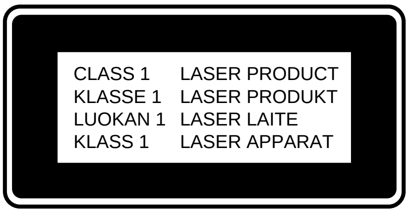
**ATTENTION**

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

**ADVARSEL!**

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



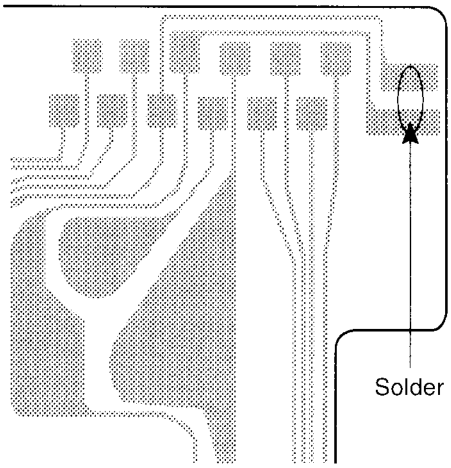
| | |
|---|---|
| CLASS 1 | LASER PRODUCT |
| KLASSE 1 | LASER PRODUKT |
| LUOKAN 1 | LASER LAITE |
| KLASS 1 | LASER APPARAT |

## Precaution to replace Optical block (KSS-213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.

PICK-UP Assy P.C.B



This is the SERVICE MANUAL for the BASIC CD MECHANISM of BASIC NAME: 4ZG-1. This BASIC NAME includes the following models as shown under the SUFFIX name: DERIVATION NAME. Please use this manual with the separate SERVICE MANUAL for DERIVATION NAME.

BASIC CD MECHANISM: 4ZG-1 VOS1DSH

SUFFIX
(DERIVATION NAME)

BASIC NAME: 4ZG-1

| BASIC NAME | DERIVATION NAME | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4ZG-1 | V | O | S1 | D | SH | — | — | — |

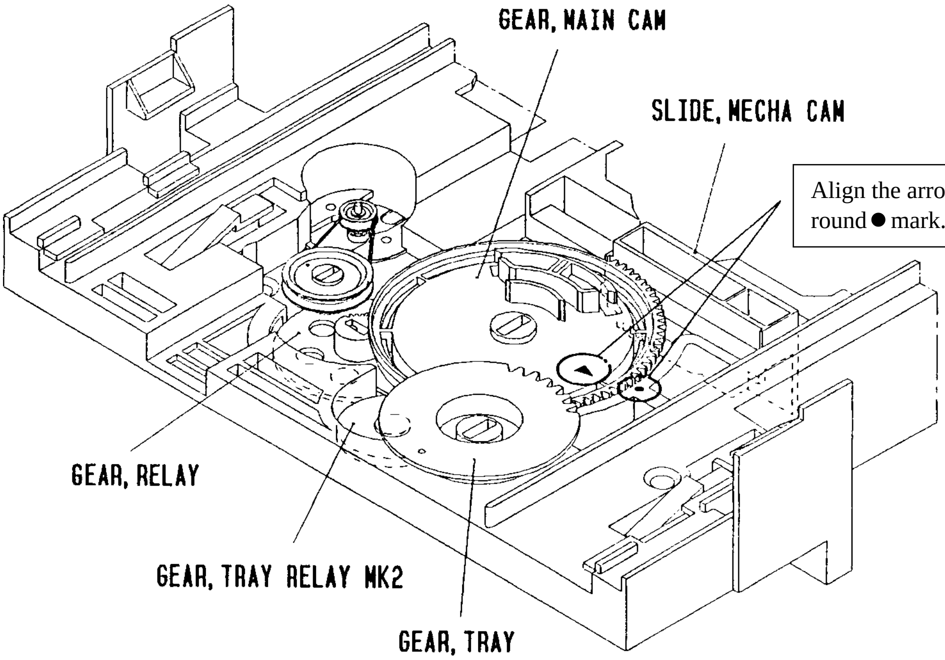
DERIVATION NAME

V: VIDEO OUT
O: On screen display
S1: THE 1st SONY IC MODEL
D: Digital output function
SH: Pick up equipped with shutter

# How to Adjust the Rotating Phase of the Gear, Main Cam

1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.


GEAR, MAIN CAM
SLIDE, MECHA CAM
GEAR, RELAY
GEAR, TRAY RELAY MK2
GEAR, TRAY

Align the arrow ▶ mark with the black round ● mark.

# ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| IC | | | |
| | 87-A20-547-010 | | C-IC,CXA1992AR |
| | 87-A20-919-040 | | C-IC,BA5915FP |
| | 87-A20-917-010 | | C-IC,CXD2540Q-1/2 |
| | 84-ZG1-697-010 | | C-IC,UPD78016FGC-549 |
| | 87-017-825-010 | | IC,GP1F32T |
| | 87-017-760-080 | | IC,M51943BML |
| | 87-A20-602-040 | | C-IC,M5291FP |
| | 87-A20-925-040 | | C-IC,BA05FP |
| | 87-A20-905-040 | | C-IC,BA033FP |
| | 87-001-873-010 | | IC,LB1644 |
| | 87-A20-920-010 | | C-IC,CL680-D1 |
| | 87-A20-921-040 | | C-IC,SN74LVU04APW |
| | 87-A20-656-040 | | C-IC,MB81V4260S-60/70PFTN |
| | 84-ZG1-695-040 | | C-IC,LH5V2RN1 |
| | 87-A20-975-040 | | C-IC,SN74LV74APW |
| | 87-A20-974-040 | | C-IC,LC74781M-9017 |
| | 87-A20-918-040 | | C-IC,SM5878AM |
| TRANSISTOR | | | |
| | 87-026-463-080 | | TR,2SA933S (0.3W) |
| | 87-026-237-080 | | CHIP-TR,DTC124XK |
| | 89-327-125-080 | | CHIP TR,2SC2712GR |
| | 87-026-231-080 | | CHIP-TRANSISTER,DTA124XK |
| | 87-A30-117-010 | | TR,2SA1357 |
| | 89-111-625-080 | | TR,2SA1162 (0.15W) |
| | 87-026-580-080 | | C-TR,DTA123JK |
| | 87-026-470-080 | | TR,HN1C03F (0.3W) |
| DIODE | | | |
| | 87-020-027-080 | | CHIP-DIODE 1SS184 |
| | 87-017-024-040 | | C-DIODE,DA204K |
| | 87-A40-180-040 | | C-DIODE,SB07-015C |
| | 87-A40-384-080 | | C-ZENER,UDZ3.3B |
| 3CD C.B | | | |
| C101 | 87-010-182-080 | | C-CAP,S 2200P-50 B |
| C102 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C103 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C104 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C105 | 87-010-404-040 | | CAP,E 4.7-50 SME |
| C106 | 87-016-369-080 | | C-CAP,S 0.033-25 B K |
| C107 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C108 | 87-010-401-040 | | CAP,E 1-50 SME |
| C109 | 87-010-382-040 | | CAP,E 22-25 SME |
| C110 | 87-010-213-080 | | C-CAP,S 0.015-50 B |
| C111 | 87-010-263-040 | | CAP,E 100-10 |
| C112 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C113 | 87-016-369-080 | | C-CAP,S 0.033-25 B K |
| C114 | 87-016-369-080 | | C-CAP,S 0.033-25 B K |
| C115 | 87-016-369-080 | | C-CAP,S 0.033-25 B K |
| C116 | 87-012-158-080 | | C-CAP,S 390P-50 CH |
| C117 | 87-012-154-080 | | C-CAP,S 150P-50 CH |
| C118 | 87-010-494-040 | | CAP,E 1-50 GAS |
| C119 | 87-010-152-080 | | C-CAP,S 8P-50 CH |
| C120 | 87-010-992-080 | | C-CAP,S 0.047-25 B |
| C121 | 87-010-992-080 | | C-CAP,S 0.047-25 B |
| C123 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C125 | 87-010-198-080 | | CAP, CHIP 0.022 |
| C126 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C127 | 87-010-555-040 | | CAP,E 100-10 GAS |
| C130 | 87-010-555-040 | | CAP,E 100-10 GAS |
| C131 | 87-010-555-040 | | CAP,E 100-10 GAS |
| C132 | 87-010-178-080 | | CHIP CAP 1000P |
| C133 | 87-010-555-040 | | CAP,E 100-10 GAS |
| C134 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C135 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C136 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C137 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C138 | 87-010-182-080 | | C-CAP,S 2200P-50 B |
| C139 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C140 | 87-010-112-040 | | CAP,E 100-16 |
| C141 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C142 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C143 | 87-010-213-080 | | C-CAP,S 0.015-50 B |
| C151 | 87-010-263-040 | | CAP,E 100-10 |
| C152 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C153 | 87-A10-893-040 | | CAP,E 220-10 M PW |
| C154 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C155 | 87-010-184-080 | | CHIP CAPACITOR 3300P(K) |
| C156 | 87-010-992-080 | | C-CAP,S 0.047-25 B |
| C157 | 87-010-992-080 | | C-CAP,S 0.047-25 B |
| C158 | 87-012-156-080 | | C-CAP,S 220P-50 CH |
| C159 | 87-016-526-080 | | C-CAP,S 0.47-16 BK |
| C160 | 87-010-314-080 | | C-CAP,S 22P-50V |
| C161 | 87-010-182-080 | | C-CAP,S 2200P-50 B |
| C162 | 87-010-178-080 | | CHIP CAP 1000P |
| C201 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C204 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C205 | 87-010-379-040 | | CAP,E 22-16 M SME |
| C206 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C207 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C208 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C209 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C210 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C211 | 87-010-263-040 | | CAP,E 100-10 |
| C213 | 87-010-190-080 | | S CHIP F 0.01 |
| C214 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C301 | 87-016-251-040 | | CAP,E 220-16 SMG |
| C302 | 87-012-140-080 | | CAP 470P |
| C303 | 87-010-178-080 | | CHIP CAP 1000P |
| C304 | 87-010-384-040 | | CAP,E 100-25 SME |
| C305 | 87-010-982-040 | | CAP,E 33-25 GAS |
| C306 | 87-010-112-040 | | CAP,E 100-16 |
| C307 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C308 | 87-010-263-040 | | CAP,E 100-10 |
| C309 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C310 | 87-010-263-040 | | CAP,E 100-10 |
| C311 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C312 | 87-010-178-080 | | CHIP CAP 1000P |
| C320 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C401 | 87-016-044-040 | | CAP,E 100-16 GAS |
| C402 | 87-010-190-080 | | S CHIP F 0.01 |
| C403 | 87-010-190-080 | | S CHIP F 0.01 |
| C501 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C502 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C503 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C504 | 87-010-154-080 | | CAP CHIP 10P |
| C505 | 87-010-154-080 | | CAP CHIP 10P |
| C506 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C508 | 87-010-263-040 | | CAP,E 100-10 |
| C509 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C510 | 87-010-263-040 | | CAP,E 100-10 |
| C511 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C512 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C513 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C514 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C518 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C519 | 87-012-145-080 | | CAP, CHIP S 270P CH |
| C520 | 87-012-157-080 | | C-CAP,S 330P-50 CH |
| C521 | 87-012-154-080 | | C-CAP,S 150P-50 CH |
| C522 | 87-010-371-080 | | CAP, ELECT 470-6.3V |
| C523 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C524 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C525 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C526 | 87-010-197-080 | | CAP, CHIP 0.01 DM |

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C527 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C528 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C529 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C530 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C531 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C532 | 87-010-374-040 | | CAP,E 47-10 |
| C533 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C534 | 87-010-555-040 | | CAP,E 100-10 GAS |
| C535 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C536 | 87-010-078-040 | | CAP,E 47-6.3 5L |
| C537 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C538 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C539 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C540 | 87-010-078-040 | | CAP,E 47-6.3 5L |
| C541 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C542 | 87-010-318-080 | | C-CAP,S 47P-50 CH |
| C544 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C546 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C549 | 87-010-494-040 | | CAP,E 1-50 GAS |
| C550 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C551 | 87-012-153-080 | | C-CAP,S 120P-50 CH |
| C552 | 87-016-526-080 | | C-CAP,S 0.47-16 BK |
| C554 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C556 | 87-010-378-040 | | CAP,E 10-16 |
| C557 | 87-010-316-080 | | C-CAP,S 33P-50 CH |
| C558 | 87-010-315-080 | | C-CAP,S 27P-50 CH |
| C560 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C601 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C602 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C603 | 87-010-112-040 | | CAP,E 100-16 |
| C604 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C605 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C606 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C607 | 87-010-313-080 | | CAP, CHIP 18P |
| C608 | 87-010-313-080 | | CAP, CHIP 18P |
| C609 | 87-010-178-080 | | CHIP CAP 1000P |
| C610 | 87-010-178-080 | | CHIP CAP 1000P |
| C611 | 87-010-178-080 | | CHIP CAP 1000P |
| C612 | 87-010-178-080 | | CHIP CAP 1000P |
| C613 | 87-010-403-040 | | CAP,E 3.3-50 SME |
| C614 | 87-010-403-040 | | CAP,E 3.3-50 SME |
| C615 | 87-010-318-080 | | C-CAP,S 47P-50 CH |
| C616 | 87-010-318-080 | | C-CAP,S 47P-50 CH |
| CN101 | 87-A60-424-010 | | CONN,16P V TOC-B |
| CN102 | 87-099-199-010 | | CONN,6P 6216 H |
| CN401 | 87-099-212-010 | | CONN,5P 6216 V |
| CN403 | 87-099-030-010 | | CONN,13P 6216H |
| J501 | 87-009-502-010 | | JACK,PIN 1P Y EARTH |
| L101 | 87-005-196-080 | | COIL,10UH |
| L301 | 87-A50-095-010 | | COIL,68UH RCR875D |
| L302 | 87-005-426-080 | | COIL,3.3UH K FLR50 |
| L502 | 87-005-204-080 | | COIL,47UH |
| L503 | 87-005-189-080 | | COIL 2.7UH |
| L504 | 87-005-187-080 | | COIL,1.8UH |
| L505 | 87-005-204-080 | | COIL,47UH |

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| L506 | 87-005-204-080 | | COIL,47UH |
| L507 | 87-005-204-080 | | COIL,47UH |
| L508 | 87-005-817-080 | | C-COIL, 33UH J FLC32 |
| M401 | 87-045-305-010 | | MOTOR, RF-500TB DC-5V (2MA) |
| R130 | 87-022-364-080 | | C-RES,S 82K-1/10W F |
| R131 | 87-022-364-080 | | C-RES,S 82K-1/10W F |
| R132 | 87-022-364-080 | | C-RES,S 82K-1/10W F |
| R133 | 87-022-364-080 | | C-RES,S 82K-1/10W F |
| R134 | 87-022-364-080 | | C-RES,S 82K-1/10W F |
| R135 | 87-022-364-080 | | C-RES,S 82K-1/10W F |
| R507 | 87-A00-408-080 | | C-RES,S 2K-1/10W D |
| S201 | 87-A90-162-010 | | SW,SL 1-1-3 SSSU |
| S401 | 87-036-109-010 | | PUSH SWITCH |
| S402 | 87-036-109-010 | | PUSH SWITCH |
| W1 | 84-ZG1-673-010 | | F-CABLE,5P 1.25 210MM BLACK N |
| W2 | 85-NFT-611-110 | | FF-CABLE 16P-1.0 |
| W3 | 84-ZG1-630-010 | | CABLE FFC 6P-1.25 |
| X201 | 87-A70-124-080 | | VIB,CER 8.0MHZ |
| X501 | 87-A70-125-080 | | VIB,XTAL 27MHZ 50PPM |
| X601 | 87-030-270-080 | | VIB,XTAL 16.9344MHZ |

LED C.B

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| LED401 | 87-070-200-080 | | LED,SLP636C-81-S-T1 |
| LED402 | 87-017-350-080 | | LED,SEL1550CM |
| LED403 | 87-017-350-080 | | LED,SEL1550CM |
| LED404 | 87-070-200-080 | | LED,SLP636C-81-S-T1 |

T-T C.B

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C401 | 87-018-214-080 | | CAP TC U 0.1-50F |
| CON401 | 86-NFZ-675-010 | | CONN,5P H 6216-11H |
| PS401 | 87-026-573-010 | | IC,GP1S53V |

DRIVE C.B

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| CN3 | 87-009-349-010 | | CONN,6P H WHT PH |
| M20 | 87-045-358-010 | | MOT,RF-310TA 43 |
| M21 | 87-045-356-010 | | MOT,RF-310TA 30 |
| SW1 | 87-A90-042-010 | | SW,LEAF MSW-17310MVPO |

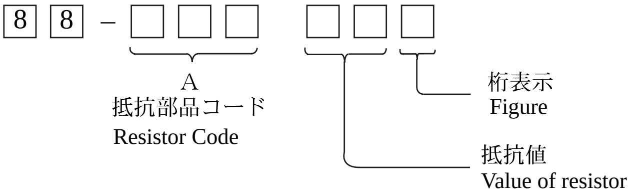
CD MOTOR C.B

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| CN4 | 87-099-210-010 | | CONN,5P H BLK 6216 |
| M1 | 87-045-305-010 | | MOT,RF-500TB |
| SW1 | 87-035-110-010 | | SW,MICRO SPPB62 |
| SW2 | 87-035-110-010 | | SW,MICRO SPPB62 |

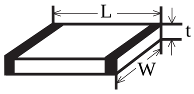
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

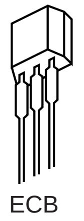
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8
8
–
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

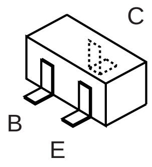
チップ抵抗
Chip resistor

| 容量<br>Wattage | 種類<br>Type | 許容誤差<br>Tolerance | 記号<br>Symbol | 寸法 / Diamensions (mm) | | | | 抵抗コード :A<br>Resistor Code : A |
|---|---|---|---|---|---|---|---|---|
| | | | | 外形 / Form | L | W | t | |
| 1/16W | 1608 | 5% | CJ |  | 1.6 | 0.8 | 0.45 | 108 |
| 1/10W | 2125 | 5% | CJ | | 2 | 1.25 | 0.45 | 118 |
| 1/8W | 3216 | 5% | CJ | | 3.2 | 1.6 | 0.55 | 128 |

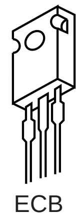
TRANSISTOR ILLUSTRATION



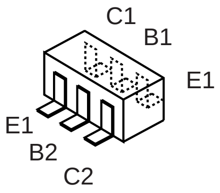
2SA933S



2SA1162
2SC2712
DTA123JK
DTA124XK
DTC124XK

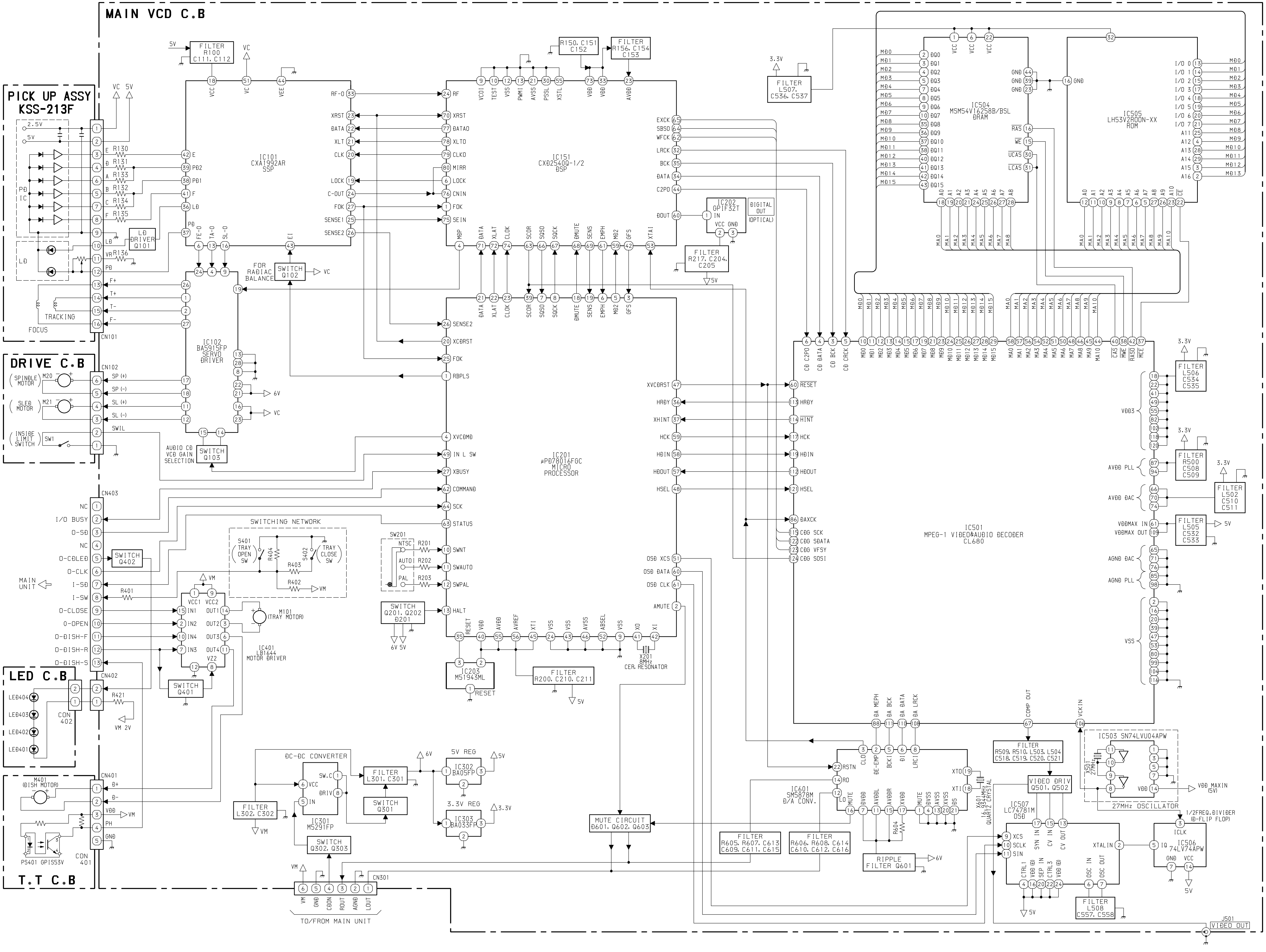


2SA1357

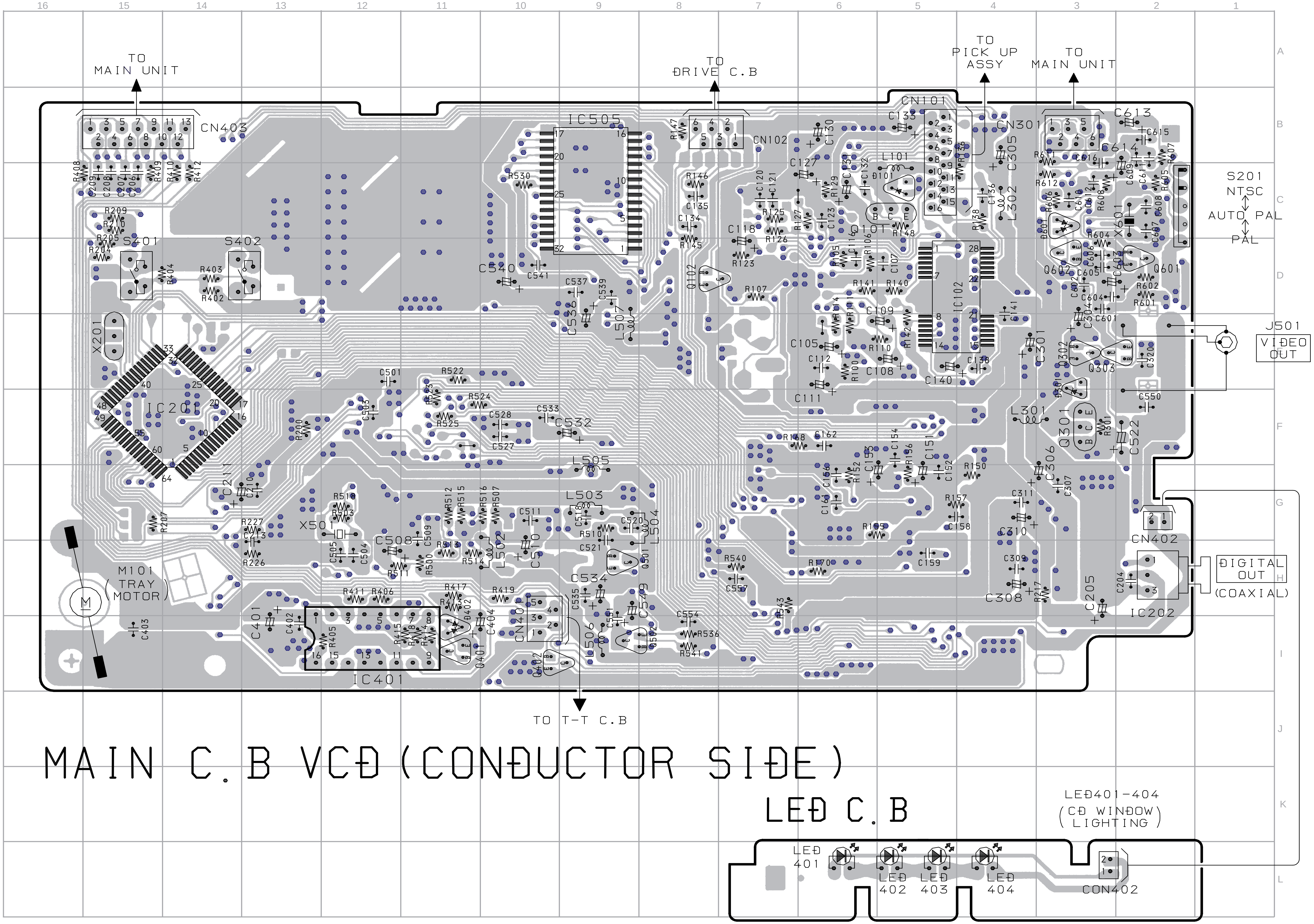

C1
B1
E1
E1
B2
C2

HN1C03F

# BLOCK DIAGRAM

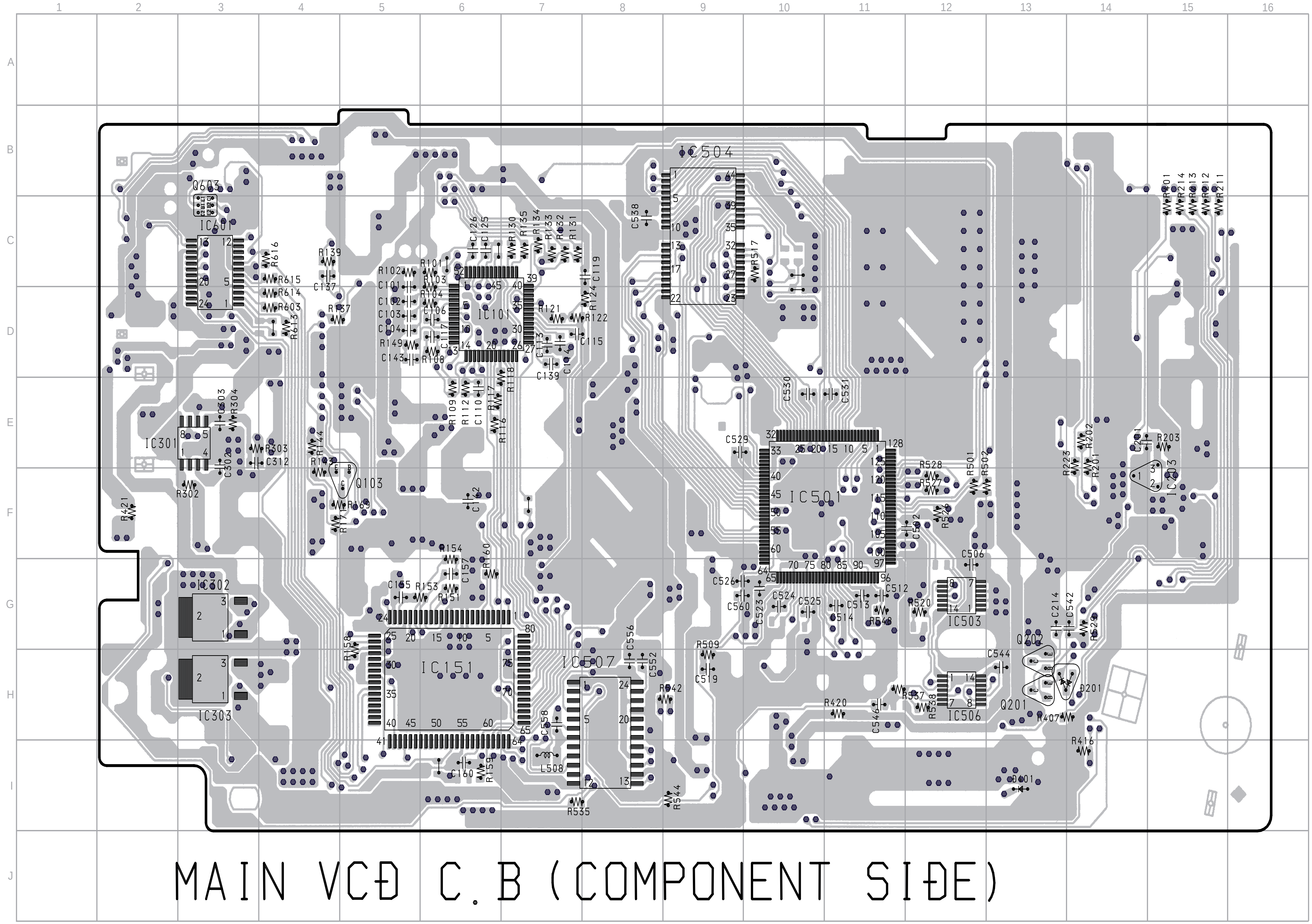


MAIN VCD C.B
PICK UP ASSY KSS-213F
DRIVE C.B
LED C.B
T.T C.B
CN101
CN102
CN403
CN402
CN401
CN301
FILTER R100 C111, C112
R150, C151 C152
FILTER R156, C154 C153
IC101 CXA1992AR SSP
IC151 CXD2540Q-1/2 DSP
IC102 BA5915FP SERVO DRIVER
IC201 μPD78016FGC MICRO PROCESSOR
IC202 GP1F32T
DIGITAL OUT (OPTICAL)
FILTER R217, C204, C205
LD DRIVER Q101
SWITCH Q102
FOR RADIAC BALANCE
SWITCH Q103
AUDIO CD VCD GAIN SELECTION
SPINDLE MOTOR M20
SLED MOTOR M21
INSIDE LIMIT SWITCH SW1
SWITCHING NETWORK
S401 TRAY OPEN SW
S402 TRAY CLOSE SW
R401 R402 R403 R404
SW201 NTSC AUTO PAL
R201 R202 R203
SWITCH Q201, Q202 D201
SWITCH Q402
SWITCH Q401
IC401 LB1644 MOTOR DRIVER
M101 (TRAY MOTOR)
MAIN UNIT
NC
I/O BUSY
O-SD
O-CDLED
O-CLK
I-SD
I-SW
O-CLOSE
O-OPEN
O-DISH-F
O-DISH-R
O-DISH-S
LED404 LED403 LED402 LED401
CON 402
R421
VM 2V
M401 (DISH MOTOR)
PS401 GP1S53V
CON 401
IC203 M51943ML
RESET
FILTER R200, C210, C211
X201 8MHz CER. RESONATOR
DC-DC CONVERTER
IC301 M5291FP
FILTER L301, C301
SWITCH Q301
FILTER L302, C302
SWITCH Q302, Q303
5V REG IC302 BA05FP
3.3V REG IC303 BA033FP
TO/FROM MAIN UNIT
VM GND CDON ROUT AGND LOUT
MUTE CIRCUIT D601, Q602, Q603
FILTER L507, C536, C537
IC504 MSM54V16258B/BSL DRAM
IC505 LH53V2R00N-XX ROM
IC501 MPEG-1 VIDEO&AUDIO DECODER CL680
FILTER L506 C534 C535
FILTER R500 C508 C509
FILTER L502 C510 C511
FILTER L505 C532 C533
VDD3
AVDD PLL
AVDD DAC
VDDMAX IN
VDDMAX OUT
AGND DAC
AGND PLL
VSS
IC601 SM5878M D/A CONV.
X601 16.9344MHz QUARTZ CRYSTAL
FILTER R605, R607, C613 C609, C611, C615
FILTER R606, R608, C614 C610, C612, C616
RIPPLE FILTER Q601
FILTER R509, R510, L503, L504 C518, C519, C520, C521
VIDEO DRIV Q501, Q502
IC507 LC74781M OSD
IC503 SN74LVU04APW
X501 27MHz
27MHz OSCILLATOR
VDD MAXIN (5V)
1/2FREQ.DIVIDER (D-FLIP FLOP)
IC506 74LV74APW
FILTER L508 C557, C558
J501 VIDEO OUT


16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
A
B
C
D
E
F
G
H
I
J
K
L
TO MAIN UNIT
TO DRIVE C.B
TO PICK UP ASSY
TO MAIN UNIT
CN403
IC505
CN102
CN101
CN301
S201
NTSC
AUTO
PAL
PAL
S401
S402
X201
IC201
IC102
Q101
Q102
Q301
Q302
Q303
Q601
Q602
X601
J501
VIDEO OUT
L101
L301
L302
L501
L502
L503
L504
L505
L506
L507
X501
M101
TRAY
MOTOR
IC401
CN401
Q401
Q402
Q501
Q502
CN402
DIGITAL OUT
(COAXIAL)
IC202
TO T-T C.B
LED401-404
(CD WINDOW LIGHTING)
LED 401
LED 402
LED 403
LED 404
CON402

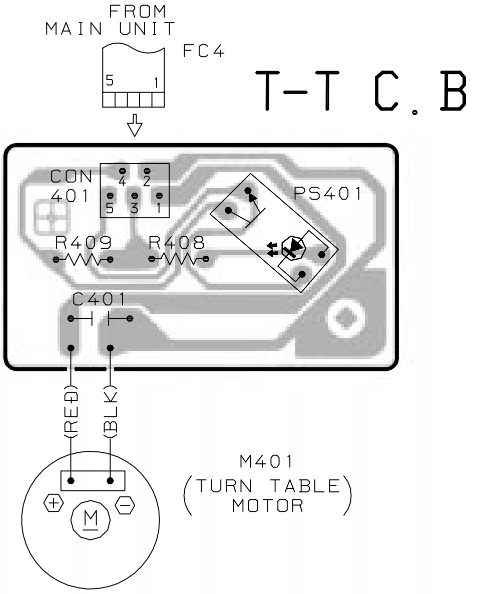
# MAIN C.B VCD (CONDUCTOR SIDE)

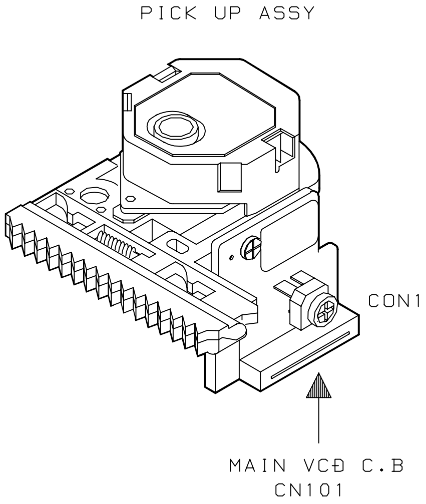
## LED C.B

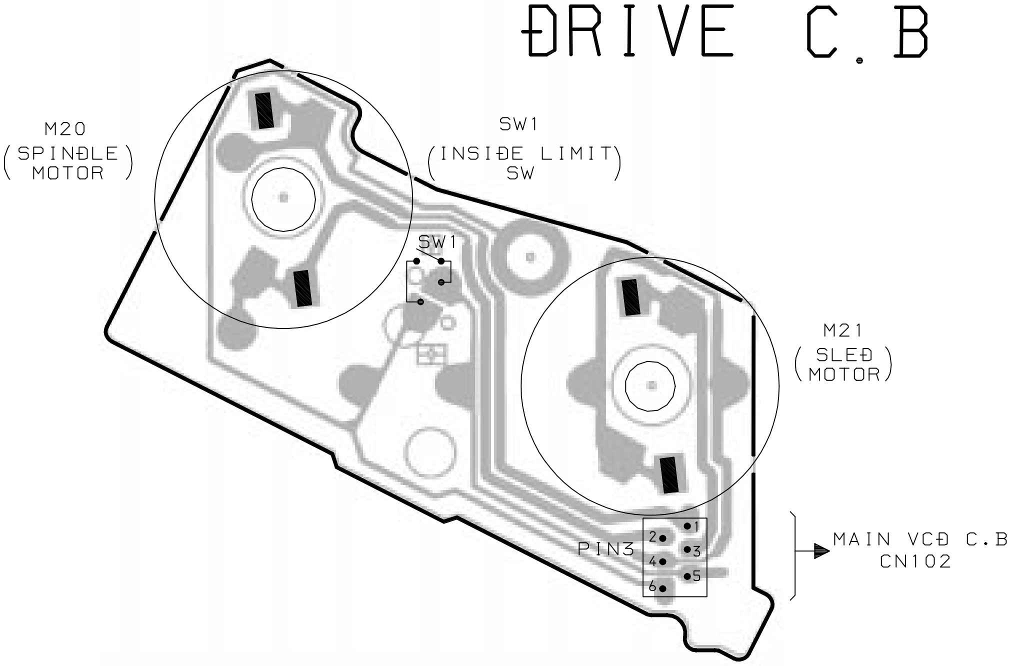

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
Q603
IC601
R616
R615
R614
R603
R613
R139
C137
R137
R102
R101
R103
R104
C101
C102
C103
C104
C106
R149
C143
R108
C117
C126
C125
R130
R135
R134
R133
R132
R131
C119
R124
R121
R122
C113
C114
C115
C139
IC101
R109
R112
C110
R117
R116
R118
IC504
C538
R517
C530
C531
C529
IC501
R528
R527
R501
R502
R529
C532
C506
IC503
R520
R548
C512
C513
C514
C525
C524
C526
C560
C523
R201
R202
R223
C201
R203
Q203
R401
R214
R213
R212
R211
IC301
C303
R304
R303
C312
C302
R302
R421
R144
R143
Q103
R163
R171
C162
R154
R160
C157
R153
C155
R151
IC302
IC303
R158
IC151
C160
R159
C558
L508
IC507
C556
C552
R542
R509
C519
R535
R544
R420
C546
R537
R538
IC506
C544
Q202
C214
C542
D201
Q201
R407
R416
D401

MAIN VCĐ C.B (COMPONENT SIĐE)

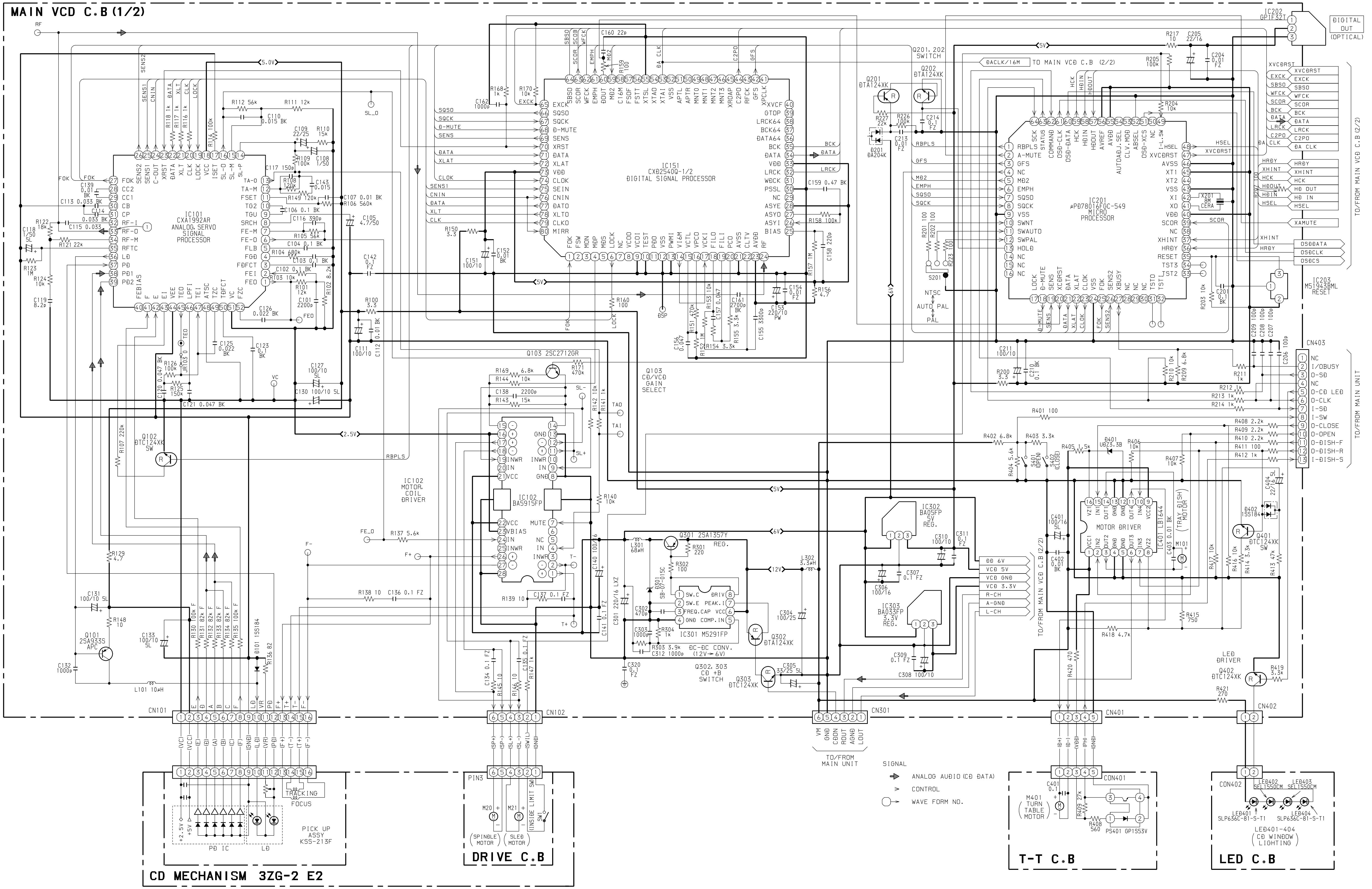
# WIRING-3


FROM
MAIN UNIT
FC4
5
1
T-T C.B
CON
401
4
2
5
3
1
PS401
R409
R408
C401
(RED)
(BLK)
M401
(TURN TABLE
MOTOR)
M

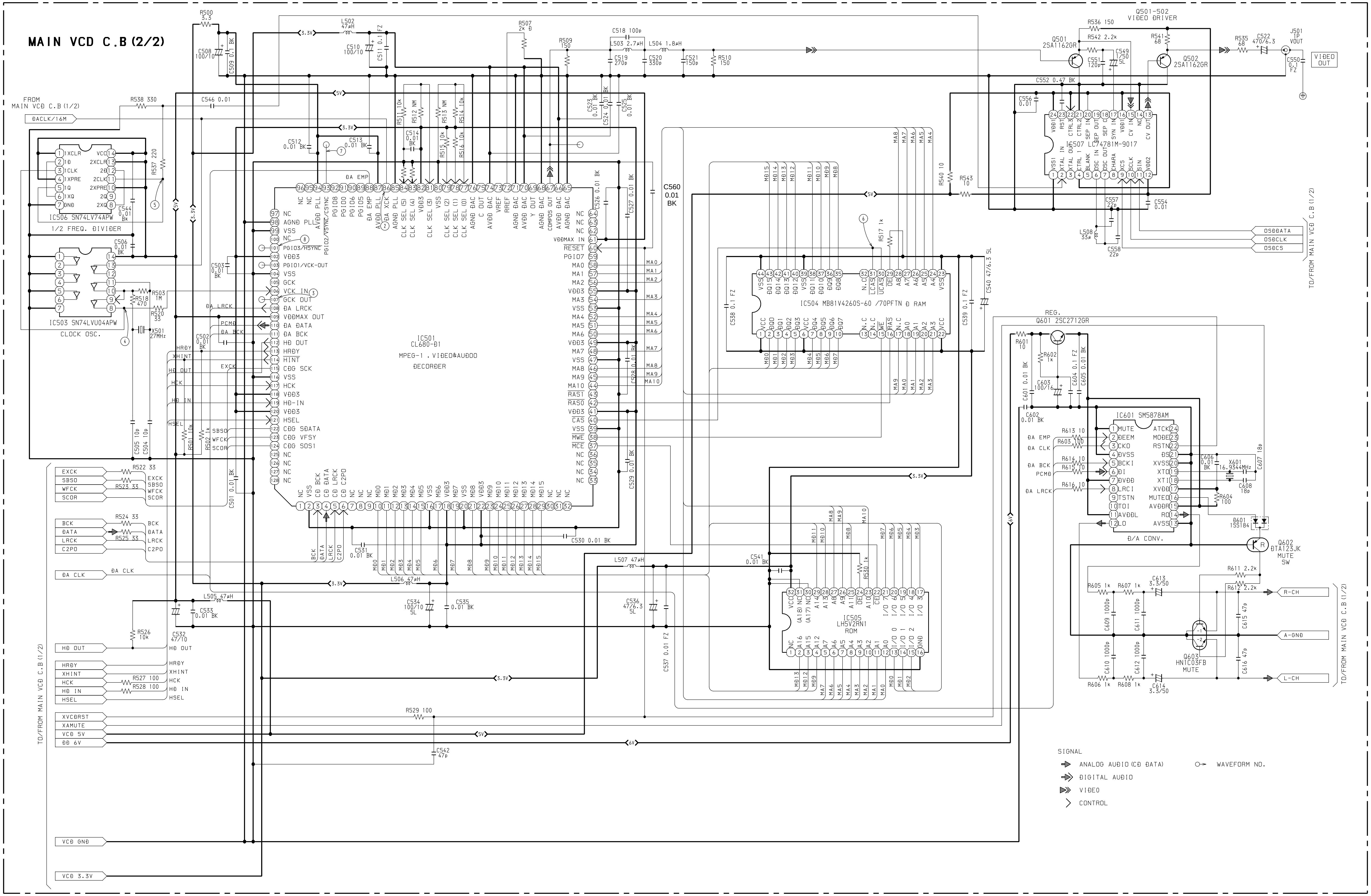

PICK UP ASSY
CON1
MAIN VCD C.B
CN101


DRIVE C.B
M20
(SPINDLE
MOTOR)
SW1
(INSIDE LIMIT
SW)
SW1
M21
(SLED
MOTOR)
PIN3
1
2
3
4
5
6
MAIN VCD C.B
CN102

# SCHEMATIC DIAGRAM-1


MAIN VCD C.B (1/2)
IC101 CXA1992AR ANALOG SERVO SIGNAL PROCESSOR
IC151 CXD2540Q-1/2 DIGITAL SIGNAL PROCESSOR
IC201 µPD78016FGC-549 MICRO PROCESSOR
IC102 BA5915FP
IC102 MOTOR COIL DRIVER
IC301 M5291FP
DC-DC CONV. (12V→6V)
IC302 BA05FP 5V REG.
IC303 BA033FP 3.3V REG.
IC401 LB1644 MOTOR DRIVER
(TRAY DISH) MOTOR
IC202 GP1F32T
DIGITAL OUT (OPTICAL)
IC203 M51943BML RESET
X201 8M CERA
Q101 2SA933S APC
Q102 DTC124XK SW
Q103 2SC2712GR
Q103 CD/VCD GAIN SELECT
Q201 DTA124XK
Q202 DTA124XK
Q201, 202 SWITCH
Q301 2SA1357Y REG.
Q302 DTA124XK
Q303 DTC124XK
Q302, 303 CD +B SWITCH
Q401 DTC124XK SW
Q402 DTC124XK LED DRIVER
TO MAIN VCD C.B (2/2)
TO/FROM MAIN VCD C.B (2/2)
TO/FROM MAIN UNIT
CN101
CN102
CN301
CN401
CN402
CN403
NC
I/OBUSY
O-SD
NC
O-CD LED
O-CLK
I-SD
I-SW
O-CLOSE
O-OPEN
O-DISH-F
O-DISH-R
I-DISH-S
VM
GND
CDON
ROUT
AGND
LOUT
DD 6V
VCD 5V
VCD GND
VCD 3.3V
R-CH
A-GND
L-CH
CD MECHANISM 3ZG-2 E2
PICK UP ASSY KSS-213F
TRACKING
FOCUS
PD IC
LD
DRIVE C.B
(SPINDLE MOTOR)
(SLED MOTOR)
(INSIDE LIMIT SW)
T-T C.B
CON401
M401 TURN TABLE MOTOR
PS401 GP1S53V
LED C.B
CON402
LED401-404 (CD WINDOW LIGHTING)
SIGNAL
ANALOG AUDIO (CD DATA)
CONTROL
WAVE FORM NO.

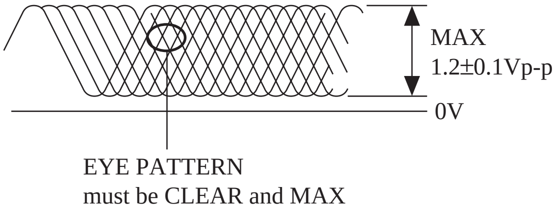
# SCHEMATIC DIAGRAM-2


MAIN VCD C.B (2/2)
FROM MAIN VCD C.B (1/2)
DACLK/16M
IC506 SN74LV74APW
1/2 FREQ. DIVIDER
IC503 SN74LVU04APW
CLOCK OSC.
X501 27MHz
IC501 CL680-D1
MPEG-1 . VIDEO&AUDIO DECORDER
IC504 MB81V4260S-60 /70PFTN D RAM
IC505 LH5V2RN1 ROM
IC507 LC74781M-9017
Q501-502 VIDEO DRIVER
Q501 2SA1162GR
Q502 2SA1162GR
J501 1P VOUT
VIDEO OUT
REG. Q601 2SC2712GR
IC601 SM5878AM
D/A CONV.
X601 16.9344MHz
D601 1SS184
Q602 DTA123JK MUTE SW
Q603 HN1C03FB MUTE
R-CH
A-GND
L-CH
OSDDATA
OSDCLK
OSDCS
TO/FROM MAIN VCD C.B (1/2)
EXCK
SBSO
WFCK
SCOR
BCK
DATA
LRCK
C2PO
DA CLK
HD OUT
HRDY
XHINT
HCK
HD IN
HSEL
XVCDRST
XAMUTE
VCD 5V
DD 6V
VCD GND
VCD 3.3V
C560 0.01 BK
SIGNAL
ANALOG AUDIO (CD DATA)
DIGITAL AUDIO
VIDEO
CONTROL
WAVEFORM NO.

# WAVE FORM

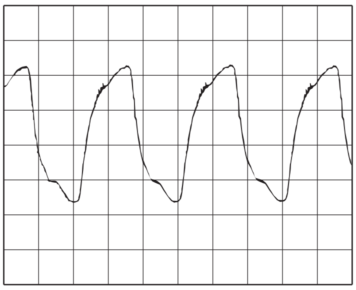
①

IC101 Pin ㉝ (RF-O)
VOLT/DIV: 200mV
TIME/DIV: 0.5µS



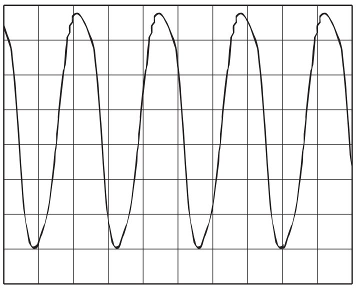
②

IC501 Pin (86) DA XCK
16.93MHz
VOLT/DIV: 1V
TIME/DIV: 20nS



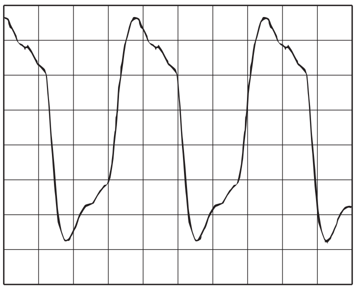
③

IC501 Pin (107) GCK OUT
42.3MHz
VOLT/DIV: 1V
TIME/DIV: 10nS



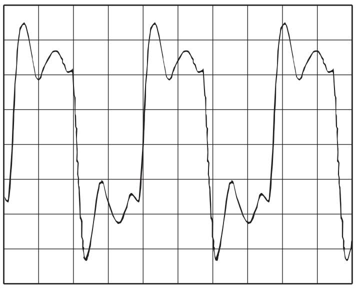
④

IC503 Pin ⑧ 33 VCK
27MHz±1.35kHz
VOLT/DIV: 1V
TIME/DIV: 10nS



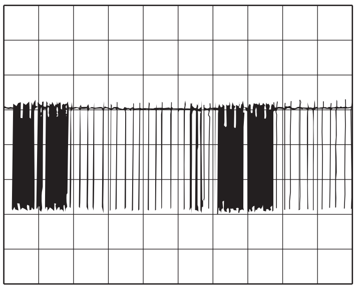
⑤

IC506 Pin ⑪ OSD CLK
13.5MHz±675Hz
VOLT/DIV: 1V
TIME/DIV: 20nS



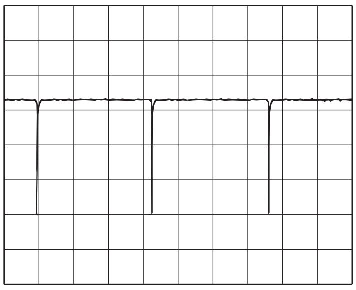
⑥

IC504 Pin ㉚ $\overline{\text{UCAS}}$
(Pin ㉛ $\overline{\text{LCAS}}$)
VOLT/DIV: 1V
TIME/DIV: 2µS



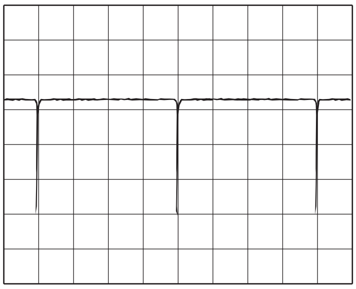
⑦

IC501 Pin (93) $\overline{\text{VSync}}$
NTSC
VOLT/DIV: 1V
TIME/DIV: 5mS



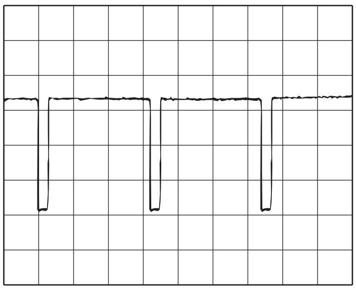
⑧

IC501 Pin (93) $\overline{\text{VSync}}$
PAL
VOLT/DIV: 1V
TIME/DIV: 5mS

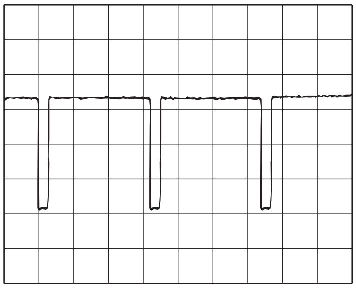


⑧

IC501 Pin (101) $\overline{\text{HSync}}$
PAL
VOLT/DIV: 1V
TIME/DIV: 20µS



IC501 Pin (101) $\overline{\text{HSync}}$
NTSC
VOLT/DIV: 1V
TIME/DIV: 20µS



# IC DESCRIPTION
## IC, CXA1992AR

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | FEO | O | Output terminal for focus error amplifier. Internally connected to window comparator input for bias condition. |
| 2 | FEI | I | Input terminal for focus error. |
| 3 | FDFCT | I | Capacitor connection terminal for time constant used when there is defect. |
| 4 | FGD | I | This pin is connected to GND via capacitor when high frequency gain of the focus servo is attenuated. |
| 5 | FLB | I | This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo. |
| 6 | FE_O | O | Focus drive output. |
| 7 | FEM | I | Focus amplifier inverted input pin. |
| 8 | SRCH | I | This is a pin where the time constant is externally connected to generate the focus search waveform. |
| 9 | TGU | I | This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain. |
| 10 | TG2 | I | This is a pin where the selection time constant is externally connected to set the tracking high frequency gain. |
| 11 | FSET | I | Pin for setting peak of the phase compensator of the focus tracking. |
| 12 | TA_M | I | Tracking amplifier inverted input pin. |
| 13 | TA_O | O | Tracking drive output. |
| 14 | SL_P | I | Sled amplifier non-inverted input pin. |
| 15 | SL_M | I | Sled amplifier inverted input pin. |
| 16 | SL_O | O | Sled drive output. |
| 17 | ISET | I | The current which determines height of the focus search, track jump and sled kick is input with external resistance connected. |
| 18 | Vcc | I | Power supply. |
| 19 | LOCK | I | “L” setting starts sled disorder-prevention circuit. (Not pull-up resistance) |
| 20 | CLK | I | Clock input for serial data transfer from CPU. (No pull-up resistance) |
| 21 | XLT | I | Latch input from CPU. (No pull-up resistance) |
| 22 | DATA | I | Serial data input from CPU. (No pull-up resistance) |
| 23 | XRST | I | Reset system at “L” setting. (No pull-up resistance) |
| 24 | C_OUT | O | Signal output for track number counting. |
| 25 | SENS1 | O | FZC, DFCT1, TZC, BALH, TGH, FOH, or ATSC is output depending on the command from CPU. |
| 26 | SENS2 | O | DFCT2, MIRR, BALL, TGL or FOL is output depending on the command from CPU. |
| 27 | FOK | O | Output terminal for focus OK comparator. |
| 28 | CC2 | I | Input pin where the DEFECT bottom hold output is capacitance coupled. |
| 29 | CC1 | O | DEFECT bottom-hold output terminal. Internally connected to interruption comparator input. |
| 30 | CB | I | Connection terminal for DEFECT bottom-hold capacitor. |
| 31 | CP | I | Connection terminal for MIRR hold-capacitor.<br>Anti-reverse input terminal for MIRR comparator. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 32 | RF_I | I | Input terminal by capacity combination of RF summing amplifier. |
| 33 | RF_O | O | Output terminal of RF summing amplifier. Checkpoint of Eye pattern. |
| 34 | RF_M | I | Anti-reverse input terminal for RF summing amplifier.<br>The gain of RF amplifier is decided by the connection resistance between RF_M and RFO terminals. |
| 35 | RFTC | I | This is a pin where the selection time constant is externally connected to control the RF level. |
| 36 | LD | O | APC amplifier output terminal. |
| 37 | PD | I | APC amplifier input terminal. |
| 38, 39 | PD1, PD2 | I | RFI-V amplifier inverted input pin.<br>These pins are connected to the A+C and B+C pins of the optical pickup, receiving by currents input. |
| 40 | FEBIAS | I/O | Bias adjustment pin of the focus error amplifier. |
| 41, 42 | F, E | I | F and EIV amplifier inverted input pins.<br>These pins are connected to the F and E of the optical pickup, receiving by current input. |
| 43 | EI | — | Gain adjustment pin of the I-V amplifier E. (When not in use of BAL automatic adjustment) |
| 44 | VEE | — | GND connection pin. |
| 45 | TEO | O | Output terminal for tacking-error amplifier. Output E-F signal. |
| 46 | LPFI | I | BAL adjustment comparator input pin. (Input through LPF from TEO) |
| 47 | TEI | I | Input terminal for tracking error. |
| 48 | ATSC | I | Window-comparator input terminal for detecting ATSC. |
| 49 | TZC | I | Input terminal for tracking-zero cross comparator. |
| 50 | TDFCT | I | Capacitor connection pin for the time constant used when there is defect. |
| 51 | VC | O | Output terminal for DC voltage reduced to half of VCC+VEE. |
| 52 | FZC | I | Input terminal for focus-zero cross comparator. |

## IC, CXD2540Q

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | FOK | I | Focus OK input.  Used for SENS output and the servo auto sequencer. |
| 2 | FSW | O | Spindle motor output filter switching output. |
| 3 | MON | O | Spindle motor on/off control output. |
| 4 | MDP | O | Spindle motor servo control. |
| 5 | MDS | O | |
| 6 | LOCK | O | High, when sampled value of GFS at 460Hz is high.<br>Low, when sampled value of GFS at 460Hz is low by 8 times successively. |
| 7 | NC | | |
| 8 | VCOO | O | Analog EFM PLL oscillation circuit output. |
| 9 | VCOI | I | Analog EFM PLL oscillation circuit input.  fLOCK=8.6436MHz. |
| 10 | TEST | I | TEST pin. |
| 11 | PDO | O | Analog EFM PLL charge pump output. |
| 12 | VSS | | GND. |
| 13 | PWMI | I | Spindle motor external control input. |
| 14 | V16M | O | VCO2 oscillation output for the wide-band EFM PLL. |
| 15 | VCTL | I | VCO2 control voltage input for the wide-band EFM PLL. |
| 16 | VPCO | O | Wide-band EFM PLL charge pump output. |
| 17 | VCKI | I | VCO2 oscillation input for the wide-band EFM PLL. |
| 18 | FILO | O | Multiplier PLL (slave=digital PLL) filter output. |
| 19 | FILI | I | Multiplier PLL filter input. |
| 20 | PCO | O | Multiplier PLL charge pump output. |
| 21 | AVSS | | Analog GND. |
| 22 | CLTV | I | Multiplier VCO1 control voltage input. |
| 23 | AVDD | | Analog power supply (5V). |
| 24 | RF | I | EFM signal input. |
| 25 | BIAS | I | Constant current input of the asymmetry circuit. |
| 26 | ASYI | I | Asymmetry comparator voltage input. |
| 27 | ASYO | O | EFM full-swing output. |
| 28 | ASYE | I | Low: asymmetry circuit off; high: asymmetry circuit on. |
| 29 | NC | | |
| 30 | PSSL | I | Audio data output mode switching input.  Low: serial output; high: parallel output. |
| 31 | WDCK | O | D/A interface for 48-bit slot.  Word clock f=2Fs. |
| 32 | LRCK | O | D/A interface for 48-bit slot.  LR clock f=Fs. |
| 33 | VDD | | Power supply (5V). |
| 34 | DA16 | O | DA16 (MSB) output when PSSL=1.<br>48-bit slot serial data (two’s complement, MSB first) when PSSL=0. |
| 35 | DA15 | O | DA15 output when PSSL=1.  48-bit slot bit clock when PSSL=0. |
| 36 | DA14 | O | DA14 output when PSSL=1.<br>64-bit slot serial data (two’s complement, LSB first) when PSSL=0. |
| 37 | DA13 | O | DA13 output when PSSL=1.  64-bit slot bit clock when PSSL=0. |
| 38 | DA12 | O | DA12 output when PSSL=1.  64-bit slot LR clock when PSSL=0. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 39 | DA11 | O | DA11 output when PSSL=1.  GTOP output when PSSL=0. |
| 40 | DA10 | O | DA10 output when PSSL=1.  XUGF output when PSSL=0. |
| 41 | DA09 | O | DA09 output when PSSL=1.  XPLCK output when PSSL=0. |
| 42 | DA08 | O | DA08 output when PSSL=1.  GFS output when PSSL=0. |
| 43 | DA07 | O | DA07 output when PSSL=1.  RFCK output when PSSL=0. |
| 44 | DA06 | O | DA06 output when PSSL=1.  C2PO output when PSSL=0. |
| 45 | DA05 | O | DA05 output when PSSL=1.  XRAOF output when PSSL=0. |
| 46 | DA04 | O | DA04 output when PSSL=1.  MNT3 output when PSSL=0. |
| 47 | DA03 | O | DA03 output when PSSL=1.  MNT2 output when PSSL=0. |
| 48 | DA02 | O | DA02 output when PSSL=1.  MNT1 output when PSSL=0. |
| 49 | DA01 | O | DA01 output when PSSL=1.  MNT0 output when PSSL=0. |
| 50 | APTR | O | Aperture compensation control output.<br>This pin outputs a high signal when the right channel is used. |
| 51 | APTL | O | Aperture compensation control output.<br>This pin outputs a high signal when the left channel is used. |
| 52 | VSS |  | GND. |
| 53 | XTAI | I | Crystal oscillation circuit input. |
| 54 | XTAO | O | Crystal oscillation circuit output. |
| 55 | XTSL | I | Crystal selector input. |
| 56 | FSTT | O | 2/3 frequency divider output for Pins 53 and 54. |
| 57 | FSOF | O | 1/4 frequency divider output for Pins 53 and 54. |
| 58 | C16M | O | 16.9344MHz output.  (V16M output in CLV-W and CAV-W modes) |
| 59 | MD2 | I | Digital-out on/off control.  High: on; low: off |
| 60 | DOUT | O | Digital-out output. |
| 61 | EMPH | O | Outputs a high signal when the playback disc has emphasis, and a low signal when there is no emphasis. |
| 62 | WFCK | I | WFCK (write frame clock) output. |
| 63 | SCOR | O | Outputs a high signal when either subcode sync S0 or S1 is detected. |
| 64 | SBSO | O | Sub P to W serial output. |
| 65 | EXCK | I | SBSO readout clock input. |
| 66 | SQSO | O | Sub Q 80-bit and PCM peak, level metter and internal status outputs. |
| 67 | SQCK | I | SQSO readout clock input. |
| 68 | MUTE | I | High: mute; low: release |
| 69 | SENS | — | SENS output to CPU. |
| 70 | XRST | I | System reset.  Reset when low. |
| 71 | DATA | O | Serial data input from CPU. |
| 72 | XLAT | O | Latch input from CPU.  Serial data is latched at the falling edge. |
| 73 | VDD |  | Power supply (5V). |
| 74 | CLOK | O | Serial data transfer clock input from CPU. |
| 75 | SEIN | I | SENS input from SSP. |
| 76 | CNIN | I | Track jump count signal input. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 77 | DATO | O | Serial data output to SSP. |
| 78 | XLTO | O | Serial data latch output to SSP. Latched at the falling edge. |
| 79 | CLKO | O | Serial data transfer clock output to SSP. |
| 80 | MIRR | I | Mirror signal input. Used when the number of tracks is 128 or more for the 2N-track jump and M track move of the auto sequencer. |

Notes)

- The 64-bit slot is an LSB first, two’s complement output, and the 48-bit slot is an MSB first, two’s complement output.
- GTOP is used to monitor the frame sync protection status. (High: sync protection window open.)
- XUGF is the negative pulse for the frame sync obtained from the EFM signal. It is the signal before sync protection.
- XPLCK is the inverse of the EFM PLL clock. The PLL is designed so that the falling edge and the EFM signal transition point coincide.
- GFS goes high when the frame sync and the insertion protection timing match.
- RFCK is derived from the crystal accuracy, and has a cycle of 136µ.
- C2PO represents the data error status.
- XRAOF is generated when the 32K RAM exceeds the ±28F jitter margin.

## IC, CL680

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | NC | — | No connection. |
| 2 | VSS | — | GND. |
| 3 | CD BCK | I | Bit clock input from CD DSP. |
| 4 | CD DATA | I | Data input from CD DSP. |
| 5 | CD LRCK | I | LRCK input from CD DSP. |
| 6 | CD C2PO | I | C2 pointer input from CD DSP. |
| 7-9 | NC | — | No connection. |
| 10-15 | MD0-MD5 | I/O | DRAM/ROM interface. (DATA) |
| 16 | VSS | — | Ground. |
| 17 | MD6 | I/O | DRAM/ROM interface. (DATA) |
| 18 | VDD3 | — | Power supply 3.3V. |
| 19 | MD7 | I/O | DRAM/ROM interface. (DATA) |
| 20 | VSS | — | Ground. |
| 21 | MD8 | I/O | DRAM/ROM interface. (DATA) |
| 22 | VDD3 | — | Power supply 3.3V. |
| 23-29 | MD9-MD15 | I/O | DRAM/ROM interface. (DATA) |
| 30-36 | NC | — | No connection. |
| 37 | $\overline{\text{MCE}}$ | — | ROM chip enable. |
| 38 | $\overline{\text{MWE}}$ | O | DRAM write enable. |
| 39 | VSS | — | Ground. |
| 40 | $\overline{\text{CAS}}$ | O | DRAM/ROM interface. |
| 41 | VDD3 | — | Power supply 3.3V. |
| 42 | $\overline{\text{RASO}}$ | O | DRAM/ROM interface. |
| 43 | $\overline{\text{RASI}}$ | O | |
| 44-46 | MA10-MA8 | O | DRAM/ROM interface. (Address) |
| 47 | VSS | — | Ground. |
| 48 | MA7 | O | DRAM/ROM interface. (Address) |
| 49 | VDD3 | — | Power supply 3.3V. |
| 50-52 | MA6-MA4 | O | DRAM/ROM interface. (Address) |
| 53 | VSS | — | Ground. |
| 54 | MA3 | O | DRAM/ROM interface. (Address) |
| 55 | VDD3 | — | Power supply 3.3V. |
| 56-58 | MA2-MA0 | O | DRAM/ROM interface. (Address) |
| 59 | PGIO7 | I/O | Programmable I/O. |
| 60 | $\overline{\text{RESET}}$ | I | Reset input. |
| 61 | VDD MAX IN | — | Power supply - VDDMAX. (5.0V) |
| 62-64 | NC | — | No connection. |
| 65 | AGND DAC | — | Analog ground. |
| 66 | A DAC | — | Analog power supply (DAC) : 3.3V. |
| 67 | COMP OUT | O | Composite out. |
| 68 | AGND DAC | — | Analog ground. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 69 | Y OUT | O | Video signal “Y” OUT. |
| 70 | AVDD DAC | — | Analog power supply (DAC) 3.3V. |
| 71 | AGND DAC | — | Analog ground. |
| 72 | R REF | I | Reference resistor input. |
| 73 | V REF | I | Voltage reference input. |
| 74 | AVDD DAC | — | Analog power supply (DAC) : 3.3V. |
| 75 | C OUT | O | Video signal “C” out. |
| 76 | AGND DAC | — | Analog ground. |
| 77-79 | CLK SEL0-2 | I | Clock selection input. |
| 80 | VSS | — | Ground. |
| 81 | CLK SEL3 | I | Clock selection input. |
| 82 | VDD3 | — | Power supply 3.3V. |
| 83, 84 | CLK SEL4, 5 | I | Clock selection input. |
| 85 | AGND PLL | — | Analog ground. |
| 86 | DA XCK | I | DA XCK (16.933MHz) input. |
| 87 | AVDD PLL | — | Analog power supply 3.3V. |
| 88 | DA EMP | O | DAC-emphasis output. |
| 89, 90 | PGIO5, O6 | I/O | Programmable I/O. |
| 91 | PGIO0 | I/O | |
| 92 | PGIO8 | I/O | |
| 93 | $\overline{\text{VSYNC}}/\overline{\text{CSYNC}}$ | O | $\overline{\text{VSYNC}}/\overline{\text{CSYNC}}$ output. |
| 94 | AVDD PLL | — | Analog power supply (PLL) 3.3V. |
| 95 | VID_DAC_CK | O | Video DAC clock. |
| 96 | PROC_CK | O | Processor clock. |
| 97 | AUD_XCK | O | Audio XCK. |
| 98 | AGND PLL | — | Analog ground. |
| 99 | VSS | — | Ground. |
| 100 | NC | — | No connection. |
| 101 | $\overline{\text{HSYNC}}$ | O | $\overline{\text{HSYNC}}$ output. |
| 102 | VDD3 | — | Power supply 3.3V. |
| 103 | VCK OUT | O | VCK out. |
| 104 | VSS | — | Ground. |
| 105 | GCK | I | Global clock signal input. (42.3MHz) |
| 106 | VCK | I | Video clock signal input. (27.0MHz) |
| 107 | GCK OUT | O | Global clock signal output. (27.0MHz) |
| 108 | DA LRCK | O | DAC-LRCK output. |
| 109 | VDD MAX OUT | — | Power supply (VDD MAX) : 5.0V. |
| 110 | DA DATA | O | DAC-PCM data output. |
| 111 | DA BCK | O | DAC-BIT clock output. |
| 112 | HD OUT | O | Micon interface. (Data out) |
| 113 | HRDY | O | Micon interface. (Host ready) |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 114 | $\overline{\text{HINT}}$ | O | Micon interface. (Host interrupt) |
| 115 | CDG SCK | I | CD-G serial clock input. |
| 116 | VSS | — | Ground. |
| 117 | HCK | I | Micon interface. (Host clock) |
| 118 | VDD3 | — | Power supply 3.3V. |
| 119 | HD IN | I | Micon interface. (Host data in) |
| 120 | VDD3 | — | Power supply 3.3V. |
| 121 | HSEL | I | Micon interface. (Host select in) |
| 122 | CDG DATA | I | CD-G data input. |
| 123 | CDG VFSY | I | CD-G VFSY input. |
| 124 | CDG SOSI | I | CD-G SOSI input. |
| 125 | DSP-XCK | O | DSP-XCK output. |
| 126-128 | NC | — | No connection. |

## IC, LC74781M

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | VSS1 | — | GND connection terminal. (Digital ground terminal). |
| 2 | Xtal IN | I | External X’tal and capacitor for internal sync generator, or the external clock are connected to this terminal. (2fsc or 4fsc). |
| 3 | Xtal OUT | O | |
| 4 | CTRL1 | I | Either the external clock input mode or the X’tal generator mode is selected by this selector terminal. L: X’tal generator mode, H: External clock input. |
| 5 | BLANK | O | Blank signal (character and the green ORed signal) is output from this terminal. (MODE 0: composite sync signal is output at H.) When reset ($\overline{\text{RST}}$ terminal = L), the X’tal clock signal is output. (It is not output when reset by the reset command). |
| 6 | OSC IN | I | External coil and capacitor for the character output dot clock generator are connected to this terminal. |
| 7 | OSC OUT | O | |
| 8 | CHARA | O | The character signal is output from this terminal. (MOD 0: when H, the external sync signal identification signal is output from this terminal. This output signal tells whether the external sync signal is present or not. When external sync signal is present, H is output.) When reset ($\overline{\text{RST}}$ terminal = L), the dot clock signal (LC oscillator) is output. (It is not output when reset by the reset command). |
| 9 | $\overline{\text{CS}}$ | I | Enable signal for the serial data input is input to this terminal. The serial data input is enabled at L. Pull-up resistor is built-in. (Hysteresis input). |
| 10 | SCLK | I | Clock of the serial data input is input to this terminal. Pull-up resistor is built-in. (Hysteresis input). |
| 11 | SIN | I | Serial data input terminal. Pull-up resistor is built-in. (Hysteresis input). |
| 12 | VDD2 | — | Power supply for the composite video signal level adjustment. (Analog power supply). |
| 13 | CV OUT | O | Composite video signal output terminal. |
| 14 | NC | — | Connected to GND or not connected. |
| 15 | CV IN | I | Composite video signal input terminal. |
| 16 | VDD1 | — | Power supply (+5V digital power supply). |
| 17 | SYN IN | I | Video signal for the internal sync separator circuit is input to this terminal. (When the internal sync separator circuit is not used, the horizontal sync signal or composite sync signal is input to this terminal). |
| 18 | SEP C | — | Internal sync separator circuit bias voltage monitoring terminal. |
| 19 | SEP OUT | O | The composite sync output signal of the internal sync separator circuit is output from this terminal. (H: MOD 1. H: during internal sync mode. L: during external sync mode.) (When internal sync separator circuit is not used, the SYN IN input signal is output from this terminal). |
| 20 | SEP IN | I | The output signal of the SEP OUT terminal is integrated so that the vertical sync signal is input to this terminal. An integrator circuit must be connected between the SEP OUT terminal and this terminal. When this terminal is not used, it must be connected to VDD1. |
| 21 | CTRL2 | I | When selecting any of the NTSC or PAL or PAL-M or PAL-N system, the pin setting has priority. When L, the NTSC system is selected after resetting. Selection of either NTSC or PAL or PAL-M or PAL-N system by the command becomes effective. H: PAL-M system. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 22 | CTRL3 | I | Controls whether or not to input the $\overline{\text{VSYNC}}$ signal to the SEPIN input. L: to input the $\overline{\text{VSYNC}}$ signal. H: not to input the $\overline{\text{VSYNC}}$ signal. |
| 23 | $\overline{\text{RST}}$ | I | System reset input terminal. Pull-up resistor is built-in. (Hysteresis input). |
| 24 | VDD1 | — | Power supply. (+5V digital power supply). |

## IC, µPD78016FGC

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | RBPLS | O | RADIAL BALANCE PLUS. |
| 2 | AMUTE | O | AUDIO ANALOG MUTE (H=MUTE ON). |
| 3 | GFS | I | GFS. |
| 4 | XVCDMD | I | AUDIO/VIDEO CD MODE (L=VCD=SPINDLE GAIN UP). |
| 5 | MD2 | O | DOUT MUTE CONT. |
| 6 | EMPH | I | EMPHASIS. |
| 7 | SQSO | I | SQDATA FROM CD. |
| 8 | SQCK | O | SQCLK TO CD. |
| 9 | VSS | — | GND. |
| 10 | SWNT | I | SW TV OUT MODE (L=NTSC). |
| 11 | SWAUTO | I | SW TV OUT MODE (L=NTSC/PAL AUTO). |
| 12 | SWPAL | I | SW TV OUT MODE (L=PAL). |
| 13 | EMERG | I | POWER EMERGENCY STOP (L*3sec=STOP). |
| 14 | NC | — | Nou used. |
| 15 | LPCSEL | I | “LPC ON/OFF (H=ON, NORMAL)”. |
| 16 | NC | — | Nou used. |
| 17 | LOCK | O | GFS (FRAME SYNC) LOCK (NO USE=H). |
| 18 | DMUTE | O | DIGITAL DATA OUT MUTE. |
| 19 | SENS | I | DSP SENS1 FROM CD. |
| 20 | XCDRST | O | CD RESET. |
| 21 | DATA | O | DATA TO CD. |
| 22 | XLAT | O | XLT TO CD. |
| 23 | CLOK | O | CLK TO CD. |
| 24 | VSS | — | GND. |
| 25 | FOK | I | FOCUS OK. |
| 26 | SENS2 | I | SSP SENS2 FROM CD. |
| 27 | XBUSY | I/O | READY/BUSY I/O TO HOST OD. |
| 28 | NC | — | Nou used. |
| 29 | NC | — | |
| 30 | NC | — | |
| 31 | TST0 | I/O | CHECK LAND. |
| 32 | TST1 | I/O | |
| 33 | TST2 | I/O | |
| 34 | TST3 | I/O | |
| 35 | RESET | I | RESET. |
| 36 | HRDY | I | HRDY FROM CL680. |
| 37 | XHINT | I | HINT FROM CL680. |
| 38 | NC | — | Nou used. |
| 39 | SCOR | I | SCOR FROM CD. |
| 40 | VDD | — | 5.0VDD. |
| 41 | XO | O | 8.0MHz CERALOCK. |

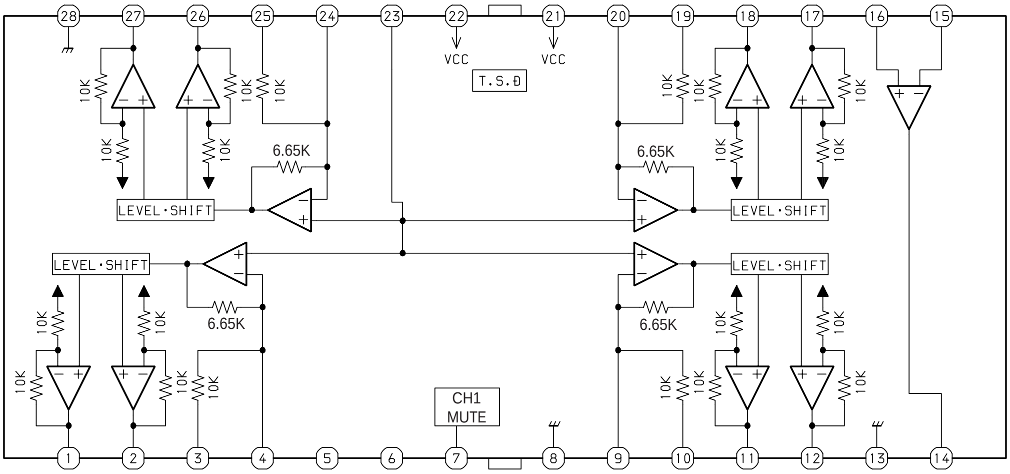
| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 42 | XI | I | 8.0MHz CERALOCK. |
| 43 | VSS | — | GND. |
| 44 | XT2 | — | Nou used. |
| 45 | XT1 | I | 5.0VDD. |
| 46 | AVSS | — | GND. |
| 47 | XMPGRST | O | MPEG BLOCK IC RESET. |
| 48 | HSEL | O | ADDRESS/DATA SEL TO CL680. |
| 49 | INLSW | I | INSIDE LIMIT SW. |
| 50 | NC | — | Nou used. |
| 51 | OSDXCS | O | OSD CHIP SELECT. |
| 52 | ABSEL | I | CXA1992A/B SELECT (L=CXA1992A). |
| 53 | CLVSEL | I | CLV MODE SELECT (H=CLV-N). |
| 54 | AADSEL | I | AUTO ADJUST SELECT (H=AUTO ON). |
| 55 | AVDD | — | 5.0VDD. |
| 56 | AVREF | — | |
| 57 | HDOUT | I | HD-OUT FROM CL680. |
| 58 | HDIN | O | HD-IN TO CL680. |
| 59 | HCK | O | HCK TO CL680. |
| 60 | OSDDATA | O | OSD DATA. |
| 61 | OSDCLK | O | OSD CLOCK. |
| 62 | COMMAND | I | COMMAND FROM HOST. |
| 63 | STATUS | O | STATUS TO HOST. |
| 64 | SCK | I | SCK FROM HOST. |

## IC, SM5878M

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | MUTE | I | MODE = H: Soft mute ON/OFF terminal.  (Mute at H).<br>MODE = L: Attenuator level DOWN/UP terminal. (DOWN at H). |
| 2 | DEEM | I | De-emphasis ON/OFF terminal. (De-emphasis ON at H). |
| 3 | CKO | O | Oscillator clock output.  (16.9344 MHz). |
| 4 | DVSS | — | Digital VSS terminal. |
| 5 | BCKI | I | Bit clock input terminal. |
| 6 | DI | I | Serial data input terminal. |
| 7 | DVDD | — | Digital VDD terminal. |
| 8 | LRCI | I | Sample rate clock (fs) input terminal. (H = L ch/L = R ch). |
| 9 | TSTN | I | Test input. (“H” or open during normal operation) |
| 10 | TO1 | O | Test output 1.  (Normally low level output). |
| 11 | AVDDL | — | Analog VDD terminal.  (For L ch). |
| 12 | LO | O | Left channel analog output terminal. |
| 13 | AVSS | — | Analog VSS terminal. |
| 14 | RO | O | Right channel analog output terminal. |
| 15 | AVDDR | — | Analog VDD terminal.  (For R ch). |
| 16 | MUTEO | O | Infinity zero detection output. |
| 17 | XVDD | — | X’tal system VDD terminal. |
| 18 | XTI | I | X’tal oscillator terminal.  (Or external clock input terminal of 16.9344 MHz). |
| 19 | XTO | O | X’tal oscillator terminal. |
| 20 | XVSS | — | X’tal system VSS terminal. |
| 21 | DS | I | Double-speed/normal playback selection.  (Double-speed at H). |
| 22 | RSTN | I | Reset terminal.  (Reset at L). |
| 23 | MODE | I | Soft mute/Attenuator mode selection.  (Soft mute at H). |
| 24 | ATCK | I | Attenuator level setup clock  (Ignored when MODE = H). |

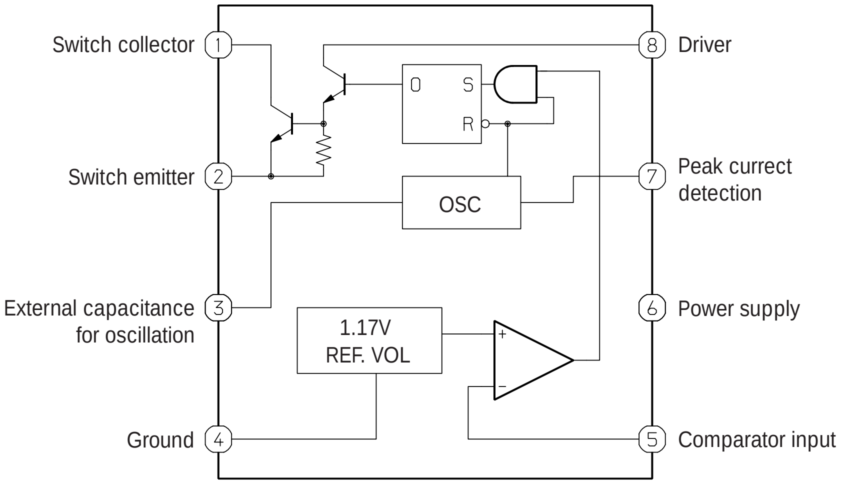
# IC BLOCK DIAGRAM

## IC, BA5915FP

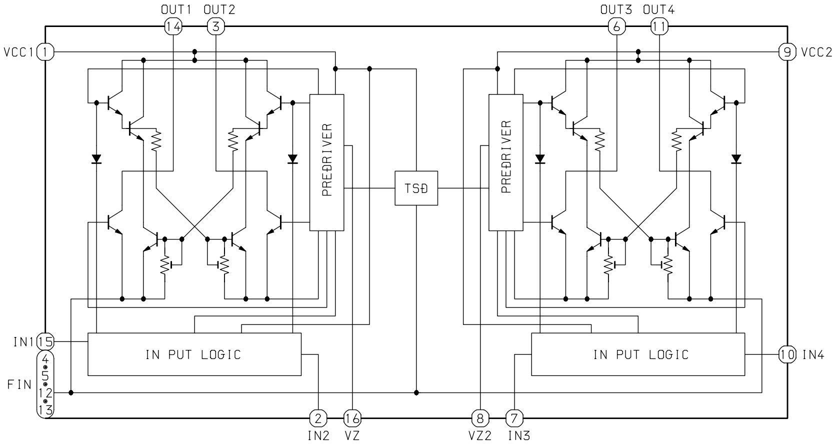

28
27
26
25
24
23
22
21
20
19
18
17
16
15
VCC
VCC
T.S.D
10K
6.65K
LEVEL·SHIFT
CH1
MUTE
1
2
3
4
5
6
7
8
9
10
11
12
13
14

T.S.D: Thermal shut-down
Resistors are in units of Ω.

## IC, M5291FP


Switch collector
1
8
Driver
Q
S
R
Switch emitter
2
7
Peak currect
detection
OSC
External capacitance
for oscillation
3
6
Power supply
1.17V
REF. VOL
Ground
4
5
Comparator input

## IC, LB1644


OUT1
OUT2
14
3
OUT3
OUT4
6
11
VCC1
1
9
VCC2
PREDRIVER
TSD
PREDRIVER
IN1
15
IN PUT LOGIC
IN PUT LOGIC
10
IN4
FIN
4
5
12
13
2
16
8
7
IN2
VZ
VZ2
IN3

TRUH TABLE

| IN1 | IN2 | OUT1 | OUT2 | IN3 | IN4 | OUT3 | OUT4 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | L | L | 0 | 0 | L | L |
| 1 | 0 | H | L | 1 | 0 | H | L |
| 0 | 1 | L | H | 0 | 1 | L | H |
| 1 | 1 | L | L | 1 | 1 | L | L |

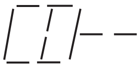
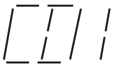
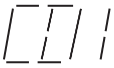
| INPUT | | | OUTPUT | | | | MODE | |
|---|---|---|---|---|---|---|---|---|
| IN1 | IN2.3 | IN4 | OUT1 | OUT2 | OUT3 | OUT4 | M1 | M2 |
| 0 | 0 | 0 | L | L | L | L | BRAKE | BRAKE |
| 1 | 0 | 0 | H | L | L | L | FF/REW | BRAKE |
| 0 | 1 | 1 | L | H | L | L | REW/FF | BRAKE |
| 1 | 1 | 0 | L | L | H | L | BRAKE | FF/REW |
| 0 | 0 | 1 | L | L | L | H | BRAKE | REW/FF |
| 1 | 1 | 1 | L | L | L | L | BRAKE | BRAKE |

# TEST MODE

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

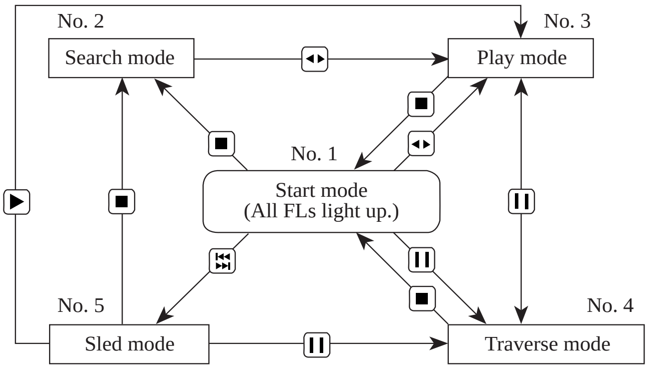
| Mode/No. | Operation | FL display | Operation | Contents |
|---|---|---|---|---|
| Start mode<br>No.1 | Activation | TEST□□ □□ □□<br>Flashes repeatdly | • Test mode is activated.<br>• CD block power is ON. | • Test mode |
| Search mode<br>No.2 | ■ key |  | • Continual focus search<br>(The pickup lens repeats the full-swing up-down motion.)<br>* Avoid continual searches that last for more than 10 minutes. * NOTE 1 | FOCUS SERVO<br>• Check focus search waveform<br>• Check focus error waveform<br>(FOK/FZC are not monitored in the search mode) |
| Play mode<br>No.3 | ◀▶key |   | • Normal playback<br>• Focus search is continued if TOC cannot be read. * NOTE 1 | FOCUS SERVO/TRACKING SERVO<br>CLV SERVO/SLED SERVO<br>Check FOK/FZC |
| Traverse mode<br>No.4 | ❚❚ key |  | • During normal disc playback<br>Press once; tracking servo OFF<br>Press twice; tracking servo ON<br>* NOTE 2 | TRACKING SERVO ON/OFF<br>Tracking balance (traverse) check |
| Sled mode<br>No.5 | ⏮key<br>⏭ | All lamps light | • Pickup moves to the outermost track<br>• Pickup moves to the innermost track<br>* NOTE 3<br>(During playback, machine operates normally.) | SLED SERVO<br>Check SLED mechanism operation |

* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

* NOTE 2: Do not press the ⏮or ⏭keys when the machine is in the ❚❚ status is active. If they are pressed, playback will not be possible after the ❚❚ status has been canceled. If the ⏮or ⏭keys are pressed in the ❚❚status, press the ■key and return to the start mode (No.1).

* NOTE 3: When pressing the ⏮or ⏭keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



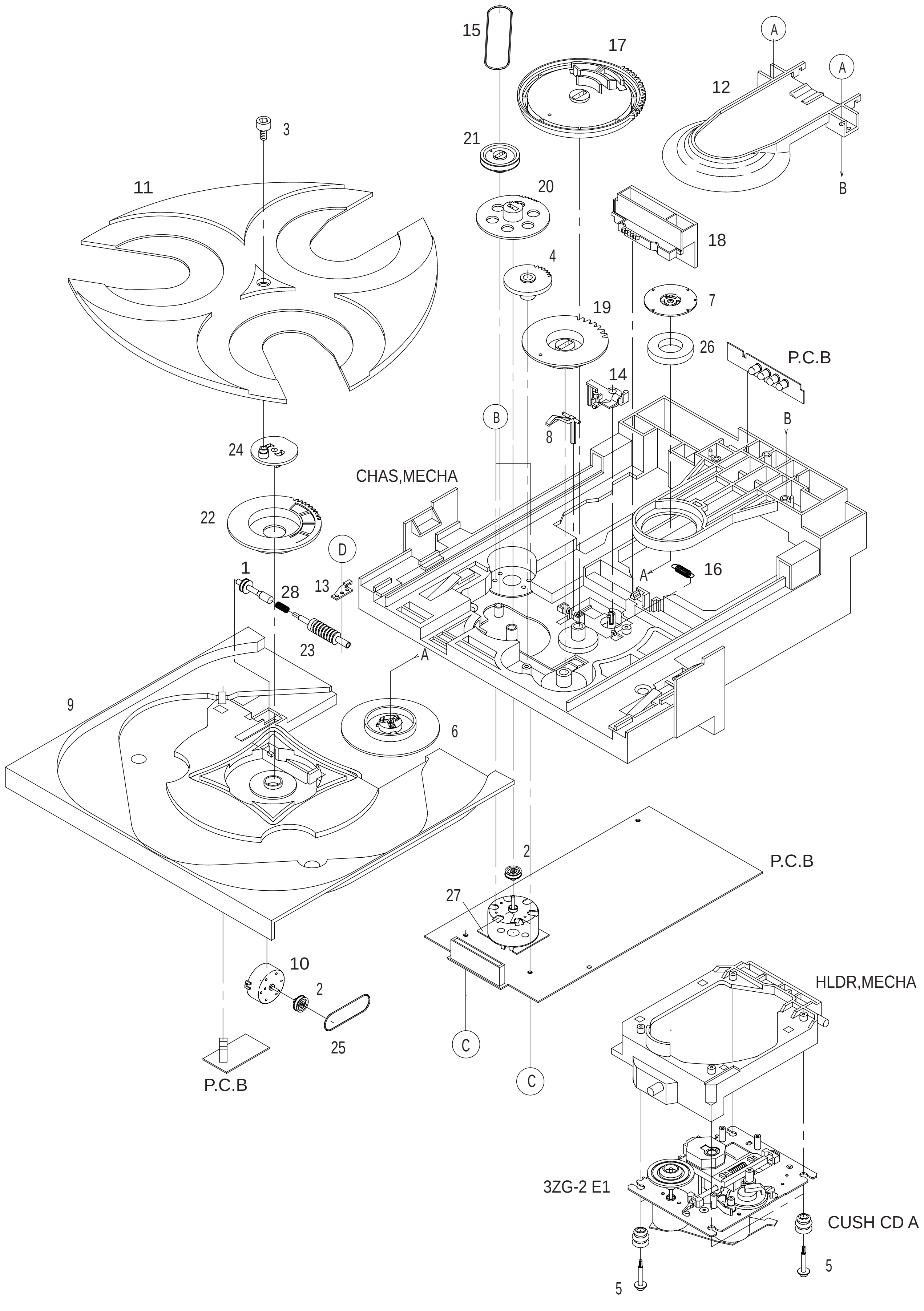
If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

5. How to check the Automatic Adjustment Values
   The automatic adjustment values can be checked by pressing the square (■) button.
   FL display (displayed in hexadecimal values)

** ** **
Tracking balance (00-0F)
Tracking gain (00-0C)
Focus bias (10-2F)

Note) The reference value is “20 08 08”.

# MECHANICAL EXPLODED VIEW 1/1

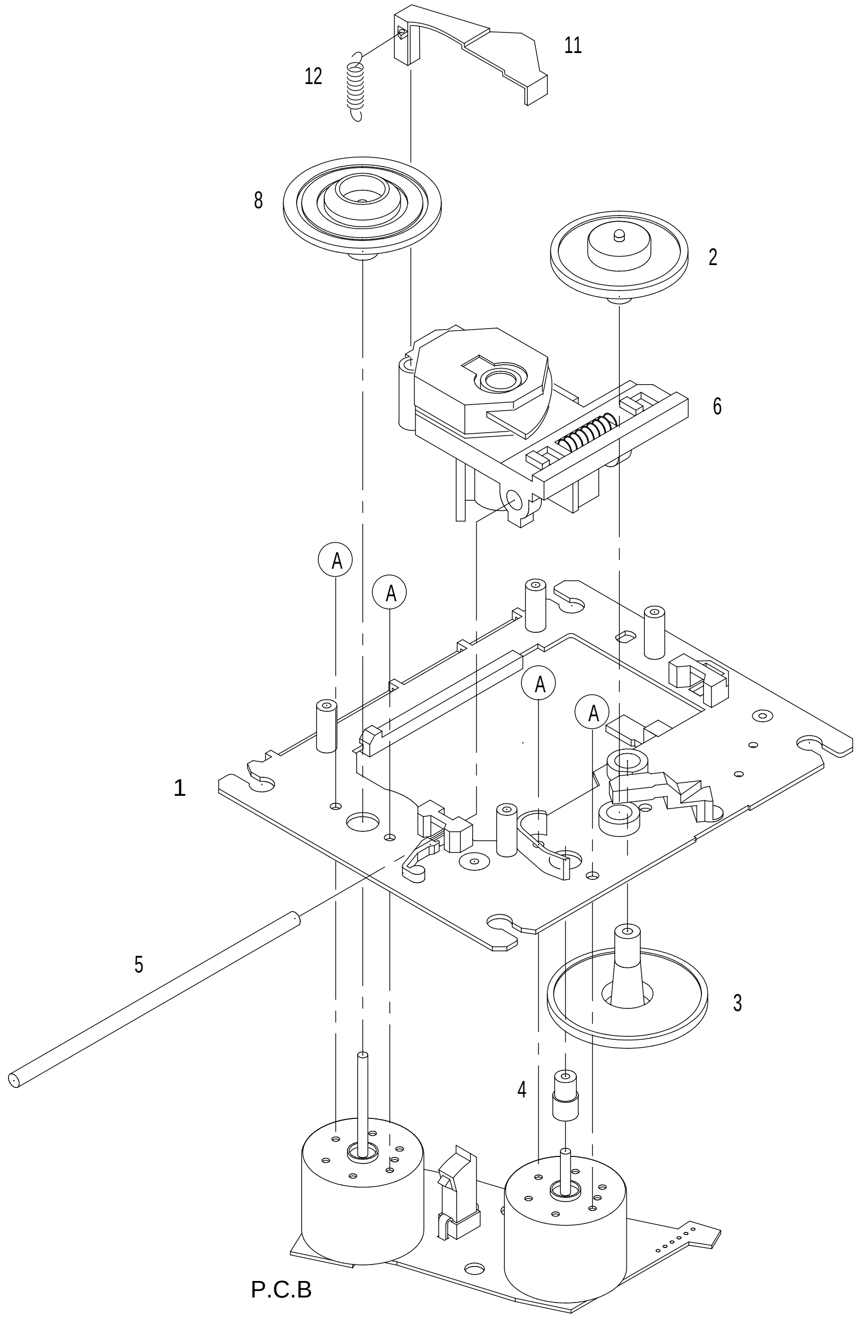

15
17
A
A
12
3
21
20
B
11
18
4
7
19
26
P.C.B
14
B
B
8
24
CHAS,MECHA
22
D
16
A
1
13
28
23
A
9
6
2
P.C.B
27
10
HLDR,MECHA
2
25
C
P.C.B
C
3ZG-2 E1
CUSH CD A
5
5

# MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 84-ZG1-239-210 | | PULLY,WORM N |
| 2 | 84-ZG1-267-010 | | PULLEY,LOAD MO 8 |
| 3 | 81-ZG1-239-010 | | S-SCREW,TT |
| 4 | 81-ZG1-291-110 | | GEAR,TRAY RELAY NO3 |
| 5 | 81-ZG1-271-010 | | S-SCREW MECH REAR |
| 6 | 81-ZG1-277-310 | | HLDR,MAGNET N |
| 7 | 81-ZG1-255-110 | | PLATE,MAGNET MK2 |
| 8 | 83-ZG3-213-010 | | LVR,SW |
| 9 | 84-ZG1-003-310 | | TRAY,NO2-B |
| 10 | 87-045-364-010 | | MOTOR(BCH3B14) |
| 11 | 84-ZG1-005-210 | | TURNTABLE,NO1(*) |
| 12 | 84-ZG1-011-010 | | REFLECTOR,CD |
| 13 | 84-ZG1-259-010 | | SPR-P,WORM |
| 14 | 84-ZG1-208-210 | | LEVER,CAM |
| 15 | 84-ZG1-209-010 | | BELT,SQ1.8-117.7 |
| 16 | 84-ZG1-211-010 | | SPR-E CAM S |
| 17 | 84-ZG1-215-410 | | GEAR,MAIN CAM BLU |
| 18 | 84-ZG1-216-310 | | SLIDE,MECHA CAM YEL |
| 19 | 84-ZG1-205-110 | | GEAR,TRAY |
| 20 | 84-ZG1-206-110 | | GEAR,RELAY |
| 21 | 84-ZG1-207-010 | | PULLEY,RELAY |
| 22 | 84-ZG1-221-010 | | GEAR,MAIN TT |
| 23 | 84-ZG1-238-010 | | GEAR,WORM N |
| 24 | 84-ZG1-224-010 | | LEVER,TT |
| 25 | 84-ZG1-225-010 | | BELT,SQ1.0-63.3 |
| 26 | 83-ZG3-602-010 | | RING,MAG |
| 27 | 87-045-305-010 | | MOTOR, RF-500TB DC-5V (2MA) |
| 28 | 84-ZG1-248-010 | | SPR-C,WORM |
| A | 87-067-703-010 | | TAPPING SCREW, BVT2+3-10 |
| B | 87-251-070-410 | | U+2.6-3 |
| C | 87-342-036-210 | | UT2+2-8 |
| D | 87-067-981-010 | | BVT2+3-6 BLK |

# CD MECHANISM EXPLODED VIEW 1/1 (3ZG-2 E1)



# CD MECHANISM PARTS LIST 1/1 (3ZG-2 E1)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 83-ZG2-243-110 | | CHAS ASSY,SHT |
| 2 | 83-ZG2-235-010 | | GEAR,A3 |
| 3 | 83-ZG2-205-210 | | GEAR,B |
| 4 | 83-ZG2-236-010 | | GEAR MOTOR 3 |
| 5 | 83-ZG2-240-010 | | SHAFT,SLIDE 3 |
| 6 | 87-A90-836-010 | | PICKUP,KSS-213F |
| 8 | 83-ZG2-233-010 | | TURN TABLE,A5 |
| 11 | 83-ZG2-245-110 | | LEVER,SHUTTER |
| 12 | 83-ZG2-250-010 | | SPR-E,SHT 2 |
| A | 87-261-032-210 | | SCREW V+2-3 |

USE MODEL LIST

- CX-NAK572
- CX-NK270
- CX-NK290
- CX-NK370
- CX-NK570
- CX-NK765
- CX-NK770
- CX-NK970
- DX-SNKH100

# REFERENCE NAME LIST

## ELECTRICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ANT | ANTENNAS |
| C- | CHIP |
| C-CAP | CAP, CHIP |
| C-CAP TN | CAP, CHIP TANTALUM |
| C-COIL | COIL, CHIP |
| C-DI | DIODE, CHIP |
| C-DIODE | DIODE, CHIP |
| C-FET | FET, CHIP |
| C-FOTR | FILTER, CHIP |
| C-JACK | JACK, CHIP |
| C-LED | LED, CHIP |
| C-RES | RES, CHIP |
| C-SFR | SFR, CHIP |
| C-SLIDE SW | SLIDE SWITCH, CHIP |
| C-SW | SWITCH, CHIP |
| C-TR | TRANSISTOR, CHIP |
| C-VR | VOLUME, CHIP |
| C-ZENER | ZENER, CHIP |
| CAP, CER | CAP, CERA-SOL |
| CAP, E | CAP, ELECT |
| CAP, M/F | CAP, FILM |
| CAP, TC | CAP, CERA-SOL |
| CAP, TC-U | CAP, CERA-SOL SS |
| CAP, TN | CAP, TANTALUM |
| CERA FIL | FILTER, CERAMIC |
| CF | FILTER, CERAMIC |
| DL | DELAY LINE |
| E/CAP | CAP, ELECT |
| FILT | FILTER |
| FLTR | FILTER |
| FUSE RES | RES, FUSE |
| MOT | MOTOR |
| P-DIODE | PHOTO DIODE |
| P-SNSR | PHOTO SENSER |
| P-TR | PHOTO TRANSISTOR |
| POLY VARI | VARIABLE CAPACITOR |
| PPCAP | CAP, PP |
| PT | POWER TRANSFORMER |
| PTR, RES | PTR, MELF |
| RC | REMOTE CONTROLLER |
| RES NF | RES, NON-FLAMMABLE |
| RESO | RESONATOR |
| SHLD | SHIELD |
| SOL | SOLENOID |
| SPKR | SPEAKER |
| SW, LVR | SWITCH, LEVER |
| SW, RTRY | SWITCH, ROTARY |
| SW, SL | SWITCH, SLIDE |
| TC CAP | CAP, CERA-SOL |
| THMS | THERMISTOR |
| TR | TRANSISTOR |
| TRIMMER | CAP, TRIMMER |
| TUN-CAP | VARIABLE CAPACITOR |
| VIB, CER | RESONATOR, CERAMIC |
| VIB, XTAL | RESONATOR, CRYSTAL |
| VR | VOLUME |
| ZENER | DIODE, ZENER |

## MECHANICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ADHESHIVE | SHEET ADHESHIVE |
| AZ | AZIMUTH |
| BAR-ANT | BAR-ANTENNA |
| BAT | BATTERY |
| BATT | BATTERY |
| BRG | BEARING |
| BTN | BUTTON |
| CAB | CABINET |
| CASS | CASSETTE |
| CHAS | CHASSIS |
| CLR | COLLAR |
| CONT | CONTROL |
| CRSR | CURSOR |
| CU | CUSHION |
| CUSH | CUSHION |
| DIR | DIRECTION |
| DUBB | DUBBING |
| FL | FRONT LOADING |
| FLY-WHL | FLYWHEEL |
| FR | FRONT |
| FUN | FUNCTION |
| G-CU | G-CUSHION |
| HDL | HANDOL |
| HIMERON | CLOTH |
| HINGE, BAT | HINGE, BATTERY |
| HLDR | HOLDER |
| HT-SINK | HEAT SINK |
| IB | INSTRUCTION BOOKLET |
| IDLE | IDLER |
| IND, L-R | INDICATOR, L-R |
| KEY, CONT | KEY, CONTROL |
| KEY, PRGM | KEY, PROGRAM |
| KNOB, SL | KNOB, SLIDE |
| LBL | LABEL |
| LID, BATT | LID, BATTERY |
| LID, CASS | LID, CASSETTE |
| LVR | LEVER |
| P-SP | P-SPRING |
| PANEL, CONT | PANEL, CONTROL |
| PANEL, FR | PANEL, FRONT |
| PRGM | PROGRAM |
| PULLY, LOAD MO | PULLY, LOAD MOTOR |
| RBN | RIBBON |
| S- | SPECIAL |
| SEG | SEGMENT |
| SH | SHEET |
| SHLD-SH | SHIELD-SHEET |
| SL | SLIDE |
| SP | SPRING |
| SP-SCREW | SPECIAL-SCREW |
| SPACER, BAT | SPACER, BATTERY |
| SPR | SPRING |
| SPR-P | P-SPRING |
| SPR-PC-PUSH | P-SPRING, C-PUSH |
| T-SP | T-SPRING |
| TERM | TERMINAL |
| TRIG | TRIGGER |
| TUN | TUNING |
| VOL | VOLUME |
| W | WASHER |
| WHL | WHEEL |
| WORM-WHL | WORM-WHEEL |

| サービス技術ニュース | |
|---|---|
| 番号 | 連絡内容 |
| G— — | |
| G— — | |
| G— — | |

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